Read what 6-A Alumni have to say about their 6-A Experience

“My 6A experience with Cadence Design Systems was both fulfilling and applicable to the real world of PCB, package and chip synthesis. I was mentored and taught by knowledgeable engineers who understood the connection between research and industry, and who cultivated an open environment where sharing ideas was paramount. I've felt like a real part of the team with the autonomy to pioneer my own visions and make critical decisions that would affect the end product. Now, I've become a full-time member of Cadence and have been trusted to both manage and mentor a younger class of MIT 6A students. Not only has the program allowed me to become a more effective engineer, but a more effective communicator and manager. I see 6A being an invaluable asset in building the teams that will become the future of Cadence and industry partners alike.”

Zachary Zumbo, Lead Software Engineer
Cadence, Chelmsford, MA
6-A M.Eng. Graduate, February 2020

“Through the 6-A program I was able to gather nearly a year’s worth of full-time experience working directly on difficult, state of the art technical challenges alongside some of the most talented engineers in my field all while earning my Master’s. As a 6-A student at Linear Technology (now Analog Devices), I worked closely with my mentor to research the latest developments in the industry and identify significant problems remaining to be solved. When I came up with a potential solution of my own to one of these problems and pitched it to my mentor he was incredibly supportive.

He, along with the rest of the engineering team I was on, helped me flesh out the idea and gave me the resources I needed to pursue it further eventually resulting in my first patent and silicon test chip. I can’t overstate the value of such an opportunity to put all of my education into practice and see something real come out of it. This experience enabled me to uniquely stand out in my later job search and is a major reason why companies continue to seek out alumni of the 6-A program at MIT.

Alex Sloboda, SAR Design Engineer
Analog Devices, Wilmington, MA
6-A M.Eng. Graduate, June 2018
Preface

This publication is the 52nd revised annual edition of the Student Handbook and the 103rd year of the 6-A Internship Program founded in 1917. Our goal is to provide answers to applicants' most frequently raised questions about 6-A and its participating companies. Additional information can be found at the 6-A web-site http://6a.mit.edu.

If you have any questions throughout the admission process, or the 6-A internship, please feel free to contact the 6-A Director, Professor Tomás Palacios (tpalacios@mit.edu), or Administrator, Kathleen Sullivan (kaths@mit.edu).

Introduction

MIT's Department of Electrical Engineering and Computer Science (EECS) 6-A M.Eng. Thesis Program matches industry mentors with Course 6 undergraduate and Masters of Engineering (M.Eng.) students for 3 and 6 month-long internships. In the case of M.Eng. students, they can use these internships for their M.Eng. thesis and obtain both a Bachelor (S.B.) and Masters of Engineering (M.Eng.) degree in five years.

This unique opportunity gives students who have demonstrated excellent academic preparation and motivation a chance to relate the scientific and engineering principles, which they learn in the classroom, to current engineering problems in industry, while obtaining a funded M.Eng. thesis for the M.Eng. year.
The 6-A Internship Admission Process

What is the 6-A Program?

The 6-A Program helps MIT EECS students to do impactful full-time internships in industry and government labs. Many of the students in the 6-A program are interested in pursuing their M.Eng. degree, and the program allows them to use the work done at the company during the M.Eng. year towards their MEng thesis. More than 2,500 Course 6 students have gone through the program over the years, including Amar Bose (founder of Bose Corporation), Cecil Green (founder of Texas Instruments), Andrew Viterbi (founder of Qualcomm), Ray Stata (founder of Analog Devices), Thuan Pham (Uber CTO), and many others.

The 6-A program currently has three different tracks to provide maximum flexibility to students:

Track #1 helps undergraduate students to do 3-months full-time internships in industry and government labs.

Track #2 allows undergraduate students to do 6-months full-time internships in industry and government labs. With company approval, the student is also allowed classes at MIT during the internship.

Track #3 is ideal for students who are now seniors, as it focuses on the M.Eng. year. In this track, the student does a six-month internship at the 6-A company during which the student works on his or her M.Eng. Thesis. With company approval, the student is allowed to take classes at MIT during the internship.

Who Can Apply?

Course 6 sophomore, junior or senior in good standing may apply to the 6-A Internship Program. Senior students must be committed to the completion of the work assignments and of the M.Eng. degree with an industry-based thesis.
Orientation

The EECS Department hosts a Student Orientation Meeting on September 16, 2020 via Zoom. This meeting is a great opportunity for students to learn more about the 6-A Program and member companies, prior to the 6A application deadline on September 28, 2020.

The Application Process

Anyone interested in joining 6-A must file a formal application, resume, grade report, optional letter of recommendation, and interview preference list by the September deadline for the fall recruitment. The application should be submitted on-line through the 6-A website (https://6a.mit.edu/eform/submit/6a-thesis-program-application). This will open in late September. See Appendix D for the 6-A Calendar of Events.

As part of the application process, the student is highly encouraged to submit a letter of recommendation. It is best to request the letter from faculty or others who know you and your work well (e.g., UROP, SuperUROP, project or summer job supervisor), instead of someone who only knows you superficially. Keep in mind this letter, as well as your CV and other application material, will be used by the member companies when choosing the students, they want to interview for the program. The EECS Department (and MIT) has many resources to help you polish your application material. For example, many students have found the EECS Communications Lab (https://mitcommlab.mit.edu/eecs/) really useful. Make sure the application material is as strong as possible and highlights why they should hire you!

The Selection Process

The students should indicate what companies they are interested in in the “Interview Preference List” that they can find in the 6-A online application. Please select as many companies as you are potentially interested in talking to. You don’t want to miss the possibility of an amazing internship just because you don’t know about a company. Note, however, that not all the companies are offering 3 and 6 months internships, and some may only focus on M.Eng. students. The 6-A office will try its best to make sure you interview with the companies that you selected however, in some cases, that may be not possible due to limited interview slots per company. In that case, we will follow the guidelines that 6-A companies give us regarding their interview preferences.

Companies have until November 2, 2020 to submit a ranked list of students selected for consideration. After this date, the 6-A program will match company lists with student lists to make placements maximizing student and company preferences. This is done in the same way that medical students are matched to medical schools, and it uses a very cool algorithm worth the 2012 Nobel Prize in Economic Sciences called the Roth-Peranson algorithm (https://www.aeaweb.org/articles/pdf/doi/10.1257/aer.89.4.748).
IMPORTANT - In many cases, students who spend 3 or 6 months at the company as undergraduate students (Track 1 or 2) can continue in the same company during their M.Eng. year (Track 3), however you should double-check this with the company. In the same way, it is possible to do Track 1 or 2 with a company, and do Track 3 with a different company.

Frequently Asked Questions

The intent of the 6-A program is to guide students, who wish to have industry experience with technology leaders, through the M.Eng. thesis at MIT. Your company mentor and everyone at the MIT 6-A office want you to succeed, therefore if you have any questions or concerns at any time, please do not hesitate to ask us directly. For your convenience, however, answers to some frequently asked questions follow.

Q. Do I keep my regular faculty counselor/academic advisor?
A. Yes, when a student joins the 6-A Program they keep the faculty counselor assigned to them when they joined Course 6. Your faculty counselor continues to handle registration matters and should be consulted for education advice.

Q. What are the responsibilities of a 6-A company?
A. It is the obligation of the 6-A partner company to assist you in achieving your educational and work experience goals through the following:

- Assign exciting projects using state-of-the-art technology.
- Assign a company mentor to supervise your 6-A work assignments.
- Pay competitive salaries, equivalent or better than a research assistantship on campus.
- Communicate with your MIT Thesis Advisor.
- Assess and evaluate your progress.
- In the case of 6-A Core Partners (for the definition of 6-A Core Partners, please see below), provide a 6-A fellowship or research assistantship to fund the student’s tuition during the spring term of the M.Eng. year if the student was not able to secure a teaching assistantship that term.

Q. How can I fit all my classes into my class schedule?
A. Because a 6-A student in the M.Eng. Program has one less term on campus, some planning is necessary so that all requirements can be met on time. Some general notes appear below:

By registering for 6.921 in the summer of Track 1 and 2, 6.923 during the Spring or Fall of Track 2, and 6.922 during the first summer of Track 3, you pick up up to three unrestricted electives for 36 (UG) units. By registering for 6.951 during the graduate 6-A assignment in the fall term, you pick up an additional 12 (G) units of the 66 units required for M.Eng.
6-A students also register for a total of 24 thesis units (6. ThM) (during the graduate Summer and Fall assignments) to complete the M. Eng. thesis. If the thesis is not submitted by the beginning of the Spring Term, students register for another 12 thesis units.

Plan your M. Eng. program so that during your last term on campus you need a maximum of two classroom subjects to meet your M. Eng. degree requirements. Then you can be a teaching assistant, if selected, during your last term, both for its educational value and to obtain full teaching assistantship funding including full term tuition, a stipend, and paid medical insurance. If you are a TA or RA a maximum of 27 classroom subject units (two classes) are allowed.

Every M. Eng. program must include four subjects (42 units) of Approved Advanced Graduate Subjects (AAGS) as well as two M. Eng. Restricted Electives. Do not leave this for the last term as the work load will be too large, especially if you are also trying to finish your thesis. Take AAGS classes and/or M. Eng. Restricted Electives during your senior year. You can use 6.921, 6.922 and 6.951 credit towards your undergraduate units, and then use the AAGS classes for the M. Eng. requirements.

Q. Can I take classes during my internship?
A. The companies expect the student to work full-time during the internship. It is possible, however, to take one or two classes at MIT during the internship as long as the companies agrees to it.

Q. How am I graded?
A. Students are required to submit a mid-term and final report on each work assignment. We will send you an email when those reports are due. You will receive an “Incomplete” if you do not return complete reports on time. Additionally, we require company mentors to complete an “Employer’s Evaluation Report” at the conclusion of each assignment. All of these reports enter into the granting of academic credit for 6-A work assignments. If you meet all the reporting requirements and have performed satisfactory work at your 6-A company you will receive a “P” grade in your 6-A registration (6.921, 6.922 or 6.951).

Q. Do I have to do the six-month M. Eng. internship in the summer/ fall?
A. 6-A students admitted to the M. Eng. Program may, by mutual arrangement with their company, select either a Spring/Summer or Summer/Fall schedule for their six-month internship. Some students prefer to remain at MIT during the spring in order to take graduate subjects, which will aid them with the work they will be doing on their graduate assignments. Others find that due to the sequencing of related subjects on a fall-spring basis, they need to select the Spring/Summer schedule in order to remain at MIT during a Fall Term of graduate study.

The purpose behind making six-month internship contiguous is to provide the student sufficient time to do an in-depth piece of
engineering work at the company which will be acceptable to the Department's Faculty as the basis for the M.Eng. Thesis. For special circumstances, with the agreement of their 6-A Company, 6-A students can request from the 6-A Program Office a different graduate internship schedule.

Q. **As an Intern, will I be paid?**

A. Yes, you will receive a competitive salary during your work assignments. However, we believe salary should not be the main determinant in the selection of a particular company. Also, keep in mind that depending on whether the company you are interning to is a Core member or an Affiliate member of the program, your MIT tuition may or may not be covered by the company.

6-A student salaries are established by the individual companies and are not necessarily uniform amongst all 6-A companies. Salary information is available from the individual company only, not from the 6-A office.

Q. **Will my salary ever increase?**

A. Yes. You will generally receive an increase in salary for each successive internship. By the time you complete your senior year you will have completed the academic work for your S.B. degree, and a company normally increases salaries during the 6-A M.Eng. year.

Q. **Will I receive company benefits, like insurance?**

A. 6-A students are generally considered temporary employees and are not eligible for company benefits such as medical insurance. However, some 6-A companies offer a housing subsidy, partial support for local travel such as shuttle bus, and will usually pay roundtrip transportation from MIT to the company. Please discuss this directly with the 6-A company.

Q. **Am I guaranteed admission into the M.Eng. program?**

A. **No.** M.Eng. admission is primarily determined by a minimum grade point average of 4.25 in your technical subjects. While it is the intent of the 6-A Program to guide you through the M.Eng. degree at MIT, this, of course, depends on the academic admissibility of each student.

Decisions on M.Eng. admissions are generally made in June after the student's junior year, but if their academic record is borderline they may be placed on HOLD until the following January to include the last 6-A assignment and fall term grades in the student’s credentials for admission.

Q. **What is a good project for my M.Eng. Thesis?**

A. The M.Eng. Thesis should be the result of a reasonably comprehensive 6-month effort where the student shows considerable initiative, creative thought, and good deal of individual responsibility. The thesis may be a design project, an analytical paper, or experimental work of a technical nature.

Examples of previous 6-A thesis projects can be found here:
And more information on the logistics can be found here:


Q. Who supervises my Thesis?

A. A 6-A student, although doing a M.Eng. Thesis while at the company, requires an MIT faculty member as an M.Eng. Thesis Advisor just like any other EECS student. The 6-A Director may also assume this added responsibility for some of the students, but other members of the faculty will, of necessity, be asked to assist some students.

Because the Institute values the time spent by company thesis supervisors in the work which eventually becomes a student's thesis, the company thesis supervisor is also asked to sign the thesis title page as an acknowledgement of their contribution to this work.

Q. What is the M.Eng. Thesis Proposal?


Students involved in track 2 of the 6-A program (i.e. doing only a six-month internship at the company) should file their Thesis Proposal within one month of starting their work at the company.

The EECS Thesis Guide is a valuable tool that will take you step by step through your M.Eng. year. This guide will answer any and all questions you may have during your internship through completion of your thesis. http://www.eecs.mit.edu/ug/thesis-guide.html

Q. I am ready to submit my M.Eng. Thesis, is there anything else I should do?

A. At the time of submission, the completed Thesis must be accompanied by a “Thesis Release Letter” from the 6-A company (http://www.eecs.mit.edu/node/5434) stating that the thesis is within the scope of the thesis proposal as previously approved; does not contain any material that is objectionable to the company; recognizes that the actual thesis document will be the permanent property of MIT; and will be placed in the MIT Library. The student or MIT owns the copyright to the thesis but the 6-A company has permission to reproduce and distribute copies of 6-A Theses done at the 6-A company in whole or in part, and to grant others the right to do so. The thesis is signed by both the MIT and 6-A company thesis advisors.
Due to time constraints of both your MIT and 6-A company thesis advisor, it is important that you give the 6-A company adequate time (i.e. at least 45 days before the MEng submission deadline, although you should check with the company at the beginning of the work assignment to see if they would need more time) to review and comment on your thesis before they sign your thesis. You won’t be able to graduate without their approval!

In many circumstances, thesis work may offer potentially attractive business opportunities to the graduate student and/or the 6-A company. A brief thesis hold allows the student to delay public access to research findings in order to pursue patent applications or explore other business opportunities associated with the work. A request for a thesis hold must be made jointly by the student and advisor and directly to the Office of the Vice Chancellor via the request form:


The Vice Chancellor acts with power in approving thesis holds and requesting that the MIT Archives hold a thesis from public access for up to three months without delaying the student’s graduation.

Q. 6-A Core Partners vs 6-A Affiliates. What is the difference?

A. A company can be a member of the 6-A program either as a 6-A Core Partner or as a 6-A Affiliate. From a student perspective, there are two important differences between Core Partners and Affiliates. First, students doing their internship at a Core Partner will typically receive a 6-A Fellowship through MIT during the fall term of their 6-month internship. This Fellowship pays the student's salary, MIT tuition, and health insurance during the fall term (See the questions below for more information on what a 6-A Fellowship is). On the other hand, Affiliate companies do not offer a 6-A Fellowship but they pay the students directly during the fall term. In this case, students interning in Affiliate Companies are responsible for paying the MIT tuition and health insurance expenses directly. To make sure students interning at a 6-A Affiliate company receive the same level of benefits than the ones at a Core Partner company, the 6-A office asks 6-A Affiliate companies to set a minimum salary for their 6-A interns of $1,600 in 2020, which is typically higher than what the students who are in the 6-A program receive, in order for them to pay these additional expenses. Please note that some non-profit organizations and government labs are not able to meet this salary guidelines. When in doubt, always ask the company in advance!

The second important difference between interning at a 6-A Core Partner and a 6-A Affiliate is that 6-A Core Partners will pay (through their membership fees) the tuition of the student during the spring term of his or her MEng degree, if the student has not been able to secure a Teaching Assistantship that term. Students interning at 6-A Affiliate companies do not have this guaranteed support due to the reduced membership fees paid by 6-A Affiliate companies.
Q. How do I know if a company is a Core Partner or an Affiliate to 6-A?

A. Check the website for the most up-to-date information (http://6a.mit.edu).

Q. What if the company I want to do my M.Eng. with is not part of the program yet?

A. Please talk to us! We are adding new companies to the program every month and we may be able to bring them in as a 6-A Affiliate, as long as they are committed to providing an exceptional environment for the student to work on an exciting thesis project. It is typically easier to overcome the administrative hurdles of bringing a new company into the program if the student has already done an internship at the company, or he/she already knows someone there who would be interested in being the company mentor.

Q. What is the 6-A Fellowship?

A. Most 6-A Core Partners offer a 6-A Fellowship to 6-A graduate students in lieu of salary after the first three-months of their six-month internship. This 6-A Fellowship gives 6-A graduate students essentially the same benefits as full-time on-campus research assistants receive: one-term full tuition and one term medical insurance and stipend while interning at the company. Lincoln Laboratory and Draper offer a Research Assistantship instead of 6-A Fellowship, but the benefits are similar.

For most 6-A graduate students, the 6-A Fellowship has more value than receiving salary during an academic term. Please note that, typically, you receive a salary during the summer term, not a Fellowship (except for Draper which offers a summer Research Assistantship).

If your 6-A company participates in the 6-A Fellowship Program (i.e. it is a 6-A Core Partner) and you have no other Fellowship or other financial support (e.g. your 6-A company is not planning to pay you directly after the summer term), you must send the 6-A office the following signed and dated statement by the drop-date of the academic term before the Fellowship is desired:

```
“I have no other fellowship support during the (year) (Summer, Fall or Spring) term and would like to receive the 6-A Fellowship in lieu of salary.”
```

Signature
Date

Q. Do I have to pay tuition while I’m working at the 6-A company?

A. Yes and no. Additional tuition is not charged for the required summer session registrations for undergraduate students, but reduced tuition is due for non-Draper and non-Lincoln Laboratory 6-A graduate students during summer and regular academic year term work assignments. Non-Draper and non-Lincoln Laboratory 6-A Core
Partners generally offer financial assistance to 6-A graduate students through the 6-A Fellowship Program, while Draper and Lincoln Laboratories generally offer regular MIT Research Assistantships.

6-A Affiliate companies pay the student directly (i.e. they are not involved in the 6-A Fellowship program) and therefore the student is responsible for paying his/her tuition and health insurance (if applicable) directly to MIT. The 6-A office asks 6-A Affiliate companies to set a minimum salary for their 6-A interns of $1,600 in 2020, which is higher than what the students who are in the 6-A Fellowship program receive, in order for them to pay these additional expenses.

Keep in mind that 6-A undergraduate students are still responsible for the regular two semester academic year MIT tuition.

If for some reason the 6-A student does not complete the M.Eng. thesis on time, tuition must be paid for later terms while the thesis is still being completed. If MIT enrollment has to be extended beyond the normal period, additional terms of registration will be billed at the prevailing rates for regular term and/or Summer Session tuition.
Appendix A.
Tuition in 6-A M.Eng. Program

TO: 6-A Graduate Students working in companies that are Core Partners of the 6-A Program

FROM: Professor Tomás Palacios, 6-A Director

DATE: August 1, 2020

SUBJECT: M.Eng. Thesis Assignments, Tuition, Registration, and Graduate Financial Support

NON-LINCOLN LAB AND NON-DRAPER LAB 6-A GRADUATE STUDENTS

Tuition and Registration

There are special tuition rates for graduate students on internships if no courses are taken while on 6-A work assignment. Graduate students who are on off-campus internships are charged tuition equal to 35% of regular tuition. This charge applies during the summer as well as during the fall and spring terms, when on 6-A assignment. Thus, during the 2020 summer session, the full tuition will be $2,320. For the 2020-2021 fall and spring terms, the full tuition will be $26,725 per term and for the term you will be away on 6-A assignment, you will be billed $9,355. During a graduate term on campus you will be billed the full tuition of $26,725. Tuition charges for summer, fall and spring terms of your M.Eng. year will be paid by some combination of the 6-A Fellowship Program and by an EECS Teaching Assistantship during an on-campus term, generally the Spring Term of the M.Eng. year, if funds are available, if you follow the required procedures described in this memorandum, and if you are not receiving any other financial support such as a research assistantship or other scholarship.

Graduate 6-A students while on 6-A work assignments who register for MIT courses in addition to their internship registration typically (6.921, 6.922, 6.951, 6.ThM) are also charged the special student per unit rate ($830/unit during the 2020-2021 academic year) up to the maximum term Fall or Spring tuition charge of $26,725. That is, 35% tuition plus the $830/unit charge cannot exceed the full tuition ($26,725) for the term. A 12-unit course would then cost $9,960 and any course work registration of 21 units or more will result in a full tuition charge of $26,725 for which $9,355 is paid by the 6-A Fellowship and summer tuition of $2320 and the remainder of $15,050 due to course units is paid by the 6-A student. The 6-A Fellowship will not pay for any subject units so 6-A students must plan their graduate program carefully so that courses are only taken when on campus when full tuition is already charged so that there are no additional charges for courses.

You should generally register for 6.921 or 6.922 corresponding to whether your 6-A summer work assignment is your first or second as a pre-M.Eng. student and 6.951 for a fall or spring assignment as a graduate M.Eng. thesis student. You also need to register for a total of 24 units of 6.ThM for your M.Eng. thesis work before you graduate which is usually best distributed as 12 units/term over your fall and spring terms of your graduate M.Eng. year.

6-A Fellowship Program (Core Companies)

The 6-A Fellowship Program for non-Lincoln or non-Draper Lab 6-A graduate students provides both a scholarship computed to cover full tuition and medical insurance for one term, plus a stipend for one term that is identical to those available to on-campus research/teaching assistantships and comparable to fellowship recipients. In lieu of salaries during the graduate work term at the 6-A company, typically fall term, companies who offer the 6-A Fellowship will provide funds to MIT in the amount sufficient to match research/teaching assistantships available to EECS graduate students at MIT.
For 2019/20 the estimated cost of a 6-A Fellowship will be:

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<th>Fall Term</th>
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<tr>
<td>1 term full tuition</td>
<td>$26,725.00</td>
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<tr>
<td>½ annual medical insurance (est.)</td>
<td>$1,634.50</td>
<td>$1634.50</td>
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<tr>
<td>1 term stipend</td>
<td>$15,277.50</td>
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<td>$43,637.00</td>
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This 6-A Fellowship will be awarded to 6-A graduate students when on 6-A work assignment. The 6-A Fellowship is awarded for the period of one academic term which for the fall 2018 term corresponds to the dates September 1, 2020 – January 15, 2021. Students who already receive tuition support from other sources, such as Fellowships, or for other reasons may choose to decline the 6-A Fellowship and continue to receive competitive salaries instead while on work assignment at their 6-A Company.

To receive additional financial support from EECS during an M.Eng. term, typically the spring term of the M.Eng. year, when not on 6-A work assignment and you are taking classes and/or doing M.Eng. thesis work on-campus, you must apply for an EECS Teaching Assistantship (TA) in at least 4 classes, if you only need two courses or less to graduate and must accept it if offered. Note that a TA can at most take two courses, so it is important for you to plan your courses so that no more than two courses need to be taken to meet graduation requirements when you apply for a TA. If you are in your last term and need more than two courses to graduate, typically around $15,050. 6-A M.Eng. students are encouraged to do a TA because of the great value of such teaching experience to their educational and professional development. In addition, a TA provides full tuition and medical insurance plus a $15,277.50 taxable stipend, in total worth about $40,000.00 in 2020-21 as given in Table I above. To maximize your chances of getting a TA, it is very important to contact the faculty members who will be teaching the classes you would like to TA for by the end of September 2020. These professors will be the ones selecting the TA’s for their classes, and it is always useful if you have introduced yourself to them in advance.

If you need more than two courses to complete your M.Eng. program, do not apply for a TA if you want to finish your M.Eng. program on time. If you decline an offered TA, the most you can receive is a partial tuition payment from 6-A of any remaining monies in your 6-A Fellowship funded by your 6-A company, typically about $15,050. If you apply for a TA in at least 4 classes and have two courses or less required to complete your M.Eng. program but do not receive a TA appointment, please contact the 6-A office by January 1st, as we may be able to help. If you need three or more courses to graduate and still want to be a TA, you must complete the remaining courses in future terms. Remaining M.Eng. requirements can be taken in future terms but with no 6-A financial support, although RA and TA support is allowed.

**Lincoln Laboratory 6-A Graduate Students**

Lincoln Laboratory 6-A Graduate Students should generally not register during a summer assignment and should register for 6.991 as a research assistant (RA) and 12 thesis units during fall and spring terms. This way you will receive a competitive salary during the summer and a RA during fall and spring terms.

**Draper 6-A Graduate Students**

Draper Laboratory 6-A Graduate Students should generally register for 6.991 as a research assistant during summer, fall, and spring terms. This way you will receive an RA as a Draper Fellow for all three graduate terms. You should generally register for 12 thesis units during fall and spring terms. This way you will receive a competitive salary during the summer and a RA during fall and spring terms.

If you have any further questions about any aspect of the 6-A Program, please contact the 6-A Director, Professor Tomás Palacios, at tpalacios@mit.edu.
Appendix B.
Calendar of Events 2020
6-A Fall Recruitment

### September 2020

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<th>SUN</th>
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- **September 16, 2020**
  - 6-A Student Orientation Meeting
  - 5PM EST via Zoom

- **September 28, 2020**
  - 6-A On-Line Applications Due
  - 4PM EST

### October 2020

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<th>SUN</th>
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- **October 20, 2020**
  - 6-A Business Meeting
  - 12PM EST via Zoom

- **October 20 and 21, 2020**
  - 6-A Company Interviews via Zoom, Skype or Phone (other dates are possible, depending on company availability)
**November 2, 2020**
Company Student Selection Lists Due

**November 9, 2020**
Company Student Selection Lists Available
See Kathy Sullivan (kaths@mit.edu)

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**December 1, 2020**
Students Ranking Due Send to Kathy Sullivan, (kaths@mit.edu)

**December 4, 2020**
Matching Lists Available See Kathy Sullivan (kaths@mit.edu)

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May 28, 2021
MIT Commencement

CONGRATULATIONS
6-A GRADUATES!

June 2021
June 7-August 27, 2021
Summer Work Period

Sept. 8-Dec. 17, 2021
Fall Work Period
Appendix C.
Interviewing Tips

Advance knowledge about a company's business impresses an interviewer and avoids need to repeat information that is already available in the brochure. It is important that as much of the interview period as possible be devoted to a discussion of your qualifications and professional interests. Keep in mind that you only have thirty minutes to convince the interviewer that you should be selected for 6-A. You can learn more about the 6-A program and the companies by viewing the 6-A home page at http://6a.mit.edu/

Many of the 6-A companies have their own home pages, which are linked from the Participating Companies page:

http://6a.mit.edu/industrial-partners

For more tips on interviewing, visit the MIT Global Education & Career Development web site at:


The EECS Communications Lab is also a great resource that you should explore: See Below

http://mitcommlab.mit.edu/eecs/
Appendix D.
The EECS Communications Lab

The EECS Communication Lab
Writing, Speaking, and Visual Design Support
For researchers – by researchers.

What can you get help with?
• Thesis proposals
• Theses
• Grad school applications
• Fellowship applications
• Resumes & CVs
• Coursework
• Posters
• Journal and conference papers
• Conference presentations
• Abstracts
• Figures
• Elevator pitches
• Any other technical communication task

Why use the Communication Lab?
It’s here to help you.
The Comm Lab provides free one-on-one peer coaching for whatever technical communication task you might be working on. Whether you are preparing a fellowship application, working on a paper for a class, giving a talk at a group meeting, or designing a poster, the Comm Lab is here to help.

We also offer just-in-time workshops and events about particular communication tasks, so you can learn skills exactly when you need them.

Check out our online resources about technical communication anytime.

Our coaches have expertise in...

The secret to our success:
Our staff are EECS grad students and postdocs with communication training, making the Comm Lab uniquely able to provide technical communication coaching.

Researchers who don’t write well end up working for those who do.

Make an appointment at mitcommlab.mit.edu/eecs/

Questions or ideas?
Contact eecscommmlab@mit.edu
Appendix E.
Special Advantages for International Students

International students attending MIT are eligible to apply to the 6-A Internship Program. However, they should be aware of special conditions imposed by the U.S. Citizenship and Immigration Services (USCIS) and by the employment policies of the companies participating in the Program.

Because 6-A is a regular educational program, work assignments under Curricular Practical Training ([http://iso.mit.edu/immigration/emp_f1_cpt.shtml](http://iso.mit.edu/immigration/emp_f1_cpt.shtml)) do not count against Optional Practical Training time ([http://iso.mit.edu/immigration/emp_f1_opt.shtml](http://iso.mit.edu/immigration/emp_f1_opt.shtml)).

Some of these conditions are described below; specific information can be obtained by contacting the MIT International Students Office (ISO), room 5-133, or by visiting the ISO web site at [http://iso.mit.edu](http://iso.mit.edu).

### 6-A and Curricular Practical Training

Because the 6-A Program gives academic credit for work performed at participating companies, International Students with valid VISA status may be eligible for the 6-A Internship Program. Once selected into the 6-A Program, authorization to work for a participating 6-A company is not automatic – students must apply for it through the International Student Advisor. International Students should consult with one of the International Student Advisors in the International Students Office (5-133), as soon as you are accepted into the 6-A Program.

### 6-A Company Policies

The companies participating in the 6-A Program determine their own hiring policies regarding International Students. A 6-A Cooperating Company Brochure is issued each year, at the start of the spring recruiting period, in which each company states its employment policy as to International Students. Many, but not all, of these participating companies have restrictions (security clearance, green cards, etc.), which limit the hiring of International Students. Consequently, competition amongst those fewer companies that do have openings for such students becomes exceptionally keen.

### Admission to 6-A

Upon an International Student's acceptance by a company to the 6-A Program, the EECS Department will notify MIT's International Students Office (ISO). It becomes the responsibility of the student to make an appointment with the ISO and to apply for Curricular Practical Training by filling out the required forms. This process must be repeated for each subsequent employment period (i.e., 6-A Work Assignment). Students who start working without authorization lose their legal status in the United States.

If you have any questions, the 6-A Office (38-409H) and Aurora Brule ([abrule@mit.edu](mailto:abrule@mit.edu)) in the International Students Office (5-133) will gladly assist you in any way she can.
Appendix F.
Nondiscrimination Policy

The Massachusetts Institute of Technology is committed to the principle of equal opportunity in education and employment. The Institute prohibits discrimination against individuals on the basis of race, color, sex, sexual orientation, gender identity, pregnancy, religion, disability, age, genetic information, veteran status, or national or ethnic origin in the administration of its educational policies, admissions policies, employment policies, scholarship and loan programs, and other Institute administered programs and activities; the Institute may, however, favor US citizens or residents in admissions and financial aid.*

The Vice President for Human Resources is designated as the Institute’s Equal Opportunity Officer. Inquiries concerning the Institute’s policies, compliance with applicable laws, statutes, and regulations, and complaints may be directed to Ramona Allen, Vice President for Human Resources, Building NE49-5000, 617-324-5675. In addition, inquiries about Title IX (which prohibits discrimination on the basis of sex) may be directed to the Institute’s Title IX coordinator, Sarah Rankin, Room W31-223, 617-324-7526, titleIX@mit.edu. Inquiries about the laws and about compliance may also be directed to the US Department of Education, Office for Civil Rights, Region I, 5 Post Office Square, 8th Floor, Boston, MA 02109-3921, 617-289-0111, OCR.Boston@ed.gov.

* The ROTC programs at MIT are operated under Department of Defense (DoD) policies and regulations, and do not comply fully with MIT’s policy of nondiscrimination with regard to gender identity. MIT continues to advocate for a change in DoD policies and regulations concerning gender identity, and is committed to providing alternative financial assistance under a needs-based assessment to any MIT student who loses ROTC financial aid because of these DoD policies and regulations.

The statement was last updated on October 1, 2019.

Original statement can be found at https://referencepubs.mit.edu/what-we-do/nondiscrimination-policy
Appendix G.
6-A Core Partner Companies

For the most updated information on the 6-A Core Partner Companies, and for the list of Affiliate Companies, check the 6-A website:

http://6a.mit.edu
Internships at Analog Devices For MIT VI-A Students

Analog Devices, Inc. (ADI) is a world-leading semiconductor company specializing in high performance analog, mixed-signal, and digital signal processing integrated circuits (ICs). ADI’s products play a fundamental role in converting real-world phenomena such as temperature, motion, pressure, light, and sound into electrical signals to be used in a wide array of applications. Examples of current applications include high performance audio and video, wireless and wireline communications, industrial controls and factory automation, automotive entertainment and safety systems, and medical and diagnostic instrumentation.

In 2017, Linear Technology became part of Analog Devices. With the power of the combined product portfolios, customer bases, world-class engineering, manufacturing, and sales and support teams, Analog Devices is now the premier, global, high performance industry leader across all major analog segments. Analog Devices’ broad and cutting-edge power product portfolio is now marketed as Power by Linear™. The combination of the two analog-leading companies will produce unprecedented possibilities for innovation and growth. The combined company completed fiscal year 2019 with over $6 billion in sales and a worldwide workforce of approximately 16,000 employees. Our products are now ubiquitous in the most demanding electronic circuits. Prominent examples are smartphones, drones, autonomous vehicles, and surgical robots. Join the team that’s ahead of what possible.

“Through the VI-A program, I found an academic home away from MIT at Analog Devices. ADI gave me the opportunity to work on a cutting-edge topic, taking circuit design skills I gained in 6.012, 6.301, and 6.775 and applying them toward a larger project. It is a great work environment with many MIT alumni and very supportive mentors.”

–Alec Poitzsch, VI-A Alumnus (2014)

“VI-A projects at Analog Devices give students a true experience as an analog IC designer. My project was fabricated in silicon, so I not only got to work with the design in simulation, but also in the lab. I had the opportunity to solve real design challenges, both at the transistor and application level, which led to quality designs which were directly incorporated into my first products as a full-time employee. The resources and responsibility I received as an intern gave me a unique experience I could not have gotten in the classroom, which was integral to learning that a career as an analog IC designer really was for me.”

Why Choose Analog Devices?

The internship experience enhances students’ ability to identify and grasp important concepts integral to analog and mixed-signal integrated circuit design when students return to classes at MIT. Because most of our products are designed by individual engineers, you won’t get lost as a small part of a huge project team. Over the last five years, Analog Devices hired more new college graduates from MIT than from any other school. Many started their careers with Analog Devices as an intern.

VI-A Assignments

Student assignments are determined by matching the student’s interests with our program needs. Positions are available in ADI’s Analog/Mixed-Signal groups as well as in the Power by Linear Engineering Group. Assignments may be in IC design engineering (transistor and chip-level design, modeling, and prototyping), applications engineering (system design and evaluation of application circuits), and software engineering (software design to simulate and model circuits, microcontroller programming, and more).

Examples of VI-A Projects

- Translation of an RF modulator design from an all-bipolar process to BiCMOS.
- Design of software to automate evaluation of voltage controlled oscillators (VCOs).
- Instrumentation and evaluation of an on-chip buffer for a new analog-to-digital converter (ADC).
- A nanopower IC for the longest battery life in medical devices.
- An ultralow quiescent current buck switching regulator IC for the next generation of high efficiency cars and trucks.
- A new architecture for USB powered battery chargers for tablets and smart phones.
- A new architecture for an RGB LED driver with independent PWM control and fast settling time for 3D cinema and TV applications.
- Design of data-dependent jitter elimination circuit for high speed serial links.
- Integration of a switching power supply into a deep submicron CMOS process.
- Design of a high voltage, high output current drive operational amplifier.

Related Coursework

Classes that give a good idea of the typical work done at ADI are listed below. If you loved any of these classes, then you would make a good fit at Analog Devices!

- Undergraduate courses: 6.002, 6.003, 6.011, 6.012, 6.101, 6.102, 6.111
- Advanced undergraduate/graduate classes: 6.301, 6.302, 6.331, 6.374, 6.376, 6.775, 6.776

Assignment Locations

We have local design centers in:

- Wilmington, MA
- North Chelmsford, MA
- Lyric Lab in Cambridge, MA
- Silicon Valley Headquarters in Santa Clara, CA
- Shanghai, China
- Limerick, Ireland
- Greensboro, NC
- Colorado Springs, CO
- Phoenix, AZ
- Wilmington, MA
- Lyric Lab in Cambridge, MA
- Silicon Valley Headquarters in Santa Clara, CA
- Shanghai, China
- Limerick, Ireland
- Greensboro, NC
- Colorado Springs, CO
- Phoenix, AZ

Other opportunities may exist in our regional offices:
- Wilmington, MA
- North Chelmsford, MA
- Lyric Lab in Cambridge, MA
- Silicon Valley Headquarters in Santa Clara, CA
- Shanghai, China
- Limerick, Ireland
- Greensboro, NC
- Colorado Springs, CO
- Phoenix, AZ

Benefits

Analog Devices participates in the VI-A Fellowship Program, which provides tuition, medical insurance, and a stipend during the final term after the senior year while students are finishing their master’s thesis research at ADI. ADI will provide relocation assistance, as well as housing and/or transportation stipends to interns who need this additional benefit.

Intern Activities

VI-A interns are part of ADI’s larger summer internship program, and enjoy summer intern activities such as talk and learn sessions, workshops, a wafer fab tour, intern presentations, and an end of summer outing. Talk and learn sessions cover technical talks held by members of the senior technical staff to introduce students to products and disciplines outside their assignments. Workshops are meant to provide career development coaching for interns’ career growth and understanding.

“Doing 6-A with Analog Devices has provided me with a rich experience in circuit design. At Analog Devices, there are plenty of people who you can learn from, and they are always willing to help. Coming in with a rich background from MIT, my 6-A project enhanced it with applications of some of the concepts I learned in school. You will probably have a good project at Analog Devices where you will learn plenty of new things.”

- George Kakuru, VI-A Alumnus (2016)

Foreign Students

International students are welcome with a valid F-1 or J-1 visa. A security clearance is not required. For some positions, ADI may have to obtain export licensing approval from the U.S. Department of Commerce — Bureau of Industry and Security and/or the U.S. Department of State — Directorate of Defense Trade Controls. As such, applicants may have to go through an export review process.

Drug-Free Workplace Requirements

Analog Devices does not have a policy on drug testing or screening.

Equal Opportunity Employer

Analog Devices is an equal employment opportunity/affirmative action employer M/F/D/V.

More Information

To learn more about Analog Devices, please visit:

analog.com/college

For more information about VI-A at ADI, please contact:

Natalia Hing natalia.hing@analog.com

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Career Opportunities at Cadence for MIT 6-A Students

Company Overview
It’s an exciting time at Cadence, as we further our Intelligent System Design strategy with innovative products that enable tomorrow’s world! Cadence is the only company that provides the expertise and tools, IP, and hardware required for the entire electronics design chain, from chip design to chip packaging to boards and to systems, which allows our customers to create revolutionary products and experiences.

Thanks to the outstanding caliber of the Cadence® team and the empowering culture that we have cultivated for over 30 years, Cadence continues to be recognized by Fortune Magazine as one of the 100 Best Companies to Work For. We have differentiated ourselves through our shared passion for solving the world’s toughest technical challenges, our dedication to pushing the limits of what’s possible, and our drive to do meaningful work.

6-A interns will be a part of our global community of interns and recent graduates called CHIPs (College Hires and Internship Programs). CHIPs provides the opportunity to meet interns from different business groups, participate in formal and informal networking events, and attend learning and development seminars.

6-A Assignment Locations
Cadence is headquartered in San Jose, CA. The company has offices in Chelmsford, MA; Austin, TX; Columbia, MD; Endicott, NY; and Pittsburgh, PA; as well as other centers around the globe.

Thesis Topics
We have several areas of interest that can be initiated from a thesis and then transformed into an actual product, most of these will also result in patent work by the student.

- Modeling of circuits that cross substrate boundaries, and developing fast extraction and simulation models for cross-fabric (PCB/package/IC) circuitry
- Novel optimization techniques for solving otherwise NP-complete problems
- All aspects of photonics design, including layout, modeling, and simulation
- Using cloud computing to build/test/deliver software modules
Career Opportunities at Cadence for MIT 6-A Students

Foreign Student Employment
International students with a valid F-1 or J-1 are welcome.

Security Clearance Requirements
The majority of our positions don’t require a security clearance. However, depending on the position, a function of the job with Cadence may require access to data that is restricted to U.S. export regulations. If the position offered does require the individual to be able to access export-restricted data, then the offer of employment is also contingent on the individual’s ability to access the data in accordance with the regulations, which is based on their residency status. If they are not a “U.S. Person” (citizen, green card holder, or protected refugee), an export license may be required before access to the data is granted.

Drug-Free Workplace Requirements
Cadence is a drug-free environment and does not have a policy on drug testing or screening.

Financial Assistance
Cadence participates in the 6-A Fellowship Program, which provides tuition, medical insurance, and a stipend for one term.

Equal Employment Opportunity Policy
Cadence is firmly committed to Equal Employment Opportunity.

More Information
To learn more about Cadence, please visit www.cadence.com/go/university-careers

Zachary Zumbo, former 6-A intern, now Lead Software Engineer at Cadence, Recipient of the 2019 Reintjes Excellence Award

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MIT Lincoln Laboratory

Create Prototype Deliver
As a research and development center of MIT, Lincoln Laboratory offers 6-A students an exceptional environment for conducting research. The eight technical divisions of MIT Lincoln Laboratory perform basic research, develop devices and components, and design, construct, and test complex systems for the Department of Defense (DoD), Department of Homeland Security, NASA, FAA, and NOAA. MIT Lincoln Laboratory is located on Hanscom Air Force Base in Lexington, Massachusetts. While MIT 6-A students are pursuing their MEng degrees, they will be supported as Research Assistants at Lincoln Laboratory during the fall and spring semesters. A shuttle bus is provided so that students may commute to Lincoln Laboratory from campus.

Major Capabilities and Research Areas

- Advanced imaging
- Advanced microelectronics
- Advanced RF technology
- Biological/chemical agent detection
- Communication systems
- Cyber security
- Environmental monitoring
- High-performance adaptive signal processing
- Homeland protection
- Integrated sensing and decision support
- Laser communications
- Net-centric architectures
- Open systems architectures
- Optics and lasers
- Rapid prototyping
- Space situational awareness
- Speech/language processing
- Systems analysis
- Threat assessment
- Weather sensing

Summer Housing: Subsidized housing on Northeastern University’s campus up to 10 weeks for students whose permanent address is greater than 50 miles outside the Boston area.

MIT Lincoln Laboratory is an Equal Employment Opportunity (EEO) employer. All qualified applicants will receive consideration for employment and will not be discriminated against on the basis of race, color, religion, sex, sexual orientation, gender identity, national origin, age, veteran status, disability status, or genetic information. Since a security clearance is required by the DoD, only students who are U.S. citizens can be considered. Interested students should contact Gary Hackett, Office of Human Resources, 781-981-7056, or hackett@ll.mit.edu.

For more about our summer programs, please visit www.ll.mit.edu/careers/student-opportunities
Past Thesis Projects of Lincoln Laboratory 6-A Students

- Wideband active antenna cancellation
- Choosing a dielectric for graphene transistors
- Automated identification for weather avoiding air traffic flows
- Designing electronics for the missile alternative range testing instrument
- Tracking system for photon-counting laser radar
- Markov chain Monte Carlo and its applications of phylogenetic tree construction
- Tracking algorithms under boundary layer effects for free-space optical communications
- Radar tracking system development
- Epidemic modeling techniques for smallpox
- Application of three-dimensional circuit integration to global clock distribution
- Dynamic Bayesian networks for the classification of spinning discs
- Low-power image-based triggering for extended operation surveillance
- Multiple region finite-difference time-domain modeling of duct cavities
- Experimental study of the frequency correlation of space-time entangled photons
- Laser speckle modeling for three-dimensional metrology and ladar
- Finite-difference techniques for body of revolution radar cross section
- A pixel-level analog-to-digital converter for the imaging array of an advanced interferometer
- Spatial filter performance on point-target detection in various clutter conditions using visible images

How to Apply

Gary Hackett
Office of Human Resources
MIT Lincoln Laboratory
781-981-7056

www.ll.mit.edu

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© Massachusetts Institute of Technology
We are the Fortune 500 Company that manages and protects the world’s data. We enable DreamWorks to use data to create the most imaginative stories. We enable Ducati to use data to build best in class sports vehicles. We enable enterprises to store and manage their data wherever they need it. We are the partners Google, Azure, and AWS clouds chose to enable data visionaries around the globe.

We are Big Data.
YOU ARE A DATA VISIONARY.

OUR VI-A INTERNS GET TO WORK ON STUFF LIKE THIS AND MORE:

**SELF HEALING DATA CENTER PROJECT**
We protect and manage the world’s data. That means... we are always pushing the innovation envelope. We think about both symbolic and statistical AI techniques (ranging from rule-based systems to deep learning) and how we can apply those techniques to enable our systems to heal themselves. What does that mean? Well, we have thousands of devices all over the world and those devices collect data about themselves. We have experts who understand the performance of those devices and diagnose problems on those systems, and we would like to automate our knowledge and build data driven models to enable these experts.

**ALGORITHMS FOR INFRASTRUCTURE TOPOLOGY**
Small to medium size physical enterprise infrastructures can be modeled and scaled in SQL with minimum compute resource requirements. However, this model inhibits scalability problems when physical enterprise infrastructure gets larger and spans multiple Data Centers, Regions, Hybrid networks and World. This project will concentrate on researching how to take current physical path based infrastructure topology and move it out of straight SQL into a more of a Big Data graph based technology that can provide compute level horizontal scaling in single and multitenant configurations for Software as a Service (SaaS) and traditional on-prem models.

AND GET TO LEARN THINGS LIKE THESE:

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BECAUSE OUR VI-A PHILOSOPHY IS THIS:

We want you to get the best of both – corporate internship and academic research. We also want you to love your project, be motivated by the work you do and be supported by an amazing team of engineers. Our job is to give you a base to work with and help you learn the tools that will enable you to get creative. We will give you the guidance you need and the freedom you want to craft your thesis into something you can own and be proud of. We have been thinking about how to do VI-A the right way for a long time. It is not just an internship – it is your opportunity to become a subject matter expert and set up your career for years to come, and we will do everything in our power to give you the best experience, because we believe in teamwork and innovation, and we take care of our people. Speaking of which, our people are our biggest treasure, and we cannot wait for you to meet them.
YOU SHOULD COME WORK WITH US.

THESE ARE OUR VI-A LOCATIONS:

- Sunnyvale, California
- Waltham, Massachusetts
- Research Triangle Park, NC

THIS IS WHAT OUR VI-A STUDENTS SAY ABOUT US:

“NetApp has a culture of learning - you will have every opportunity to interact with people who know more than you do, and they, despite having every opportunity to ignore you, will choose to help you.”
– Rebecca Kekelishvili

“10/10, would recommend to a friend.”
– Tho Tran

THIS IS OUR TEAM.

There is actually nobody we like better. We have had 25 years to confirm it.

*Visa sponsorship available if applicable.
BECAUSE WE MAKE A GREAT TEAM.

THIS IS HOW WE TELL OUR VISION.

THIS IS WHERE WE WORK.

NetApp®

THIS IS ONE OF OUR PRODUCTS.

THIS IS HOW WE CELEBRATE INNOVATION.

NetApp

INSIGHT 2018

THIS IS HOW WE CELEBRATE INNOVATION.
Appendix H.
6-A Affiliate Companies

For the most updated information on the 6-A Core Partner Companies, and for the list of Affiliate Companies, check the 6-A website:

http://6a.mit.edu
Overview

We are the global leader in materials engineering solutions used to produce virtually every new chip and advanced display in the world. Our expertise in modifying materials at atomic levels and on an industrial scale enables customers to transform possibilities into reality. At Applied Materials, our innovations make possible the technology shaping the future.

Engineering Positions

Though Applied Materials nominally sells semiconductor equipment, we also sell the knowledge of the performance of this hardware. There is a large data stream collected by the tool that monitors the current performance. Engineers will typically analyze this data stream and, combined with their technical knowledge, troubleshoot problems, identify root causes and suggest design improvements to improve value to our customers, who are typically semiconductor manufacturing companies.

*Potential interns will have the following roles:* data analysis including experimental design in order to understand tool behavior, developing methods to link the experimental data to physics-based simulations (either carried out by the intern or by team members), developing and implementing process control schemes to improve alignment to customer specs.

Knowledge of semiconductor devices and semiconductor processing is desirable, but not required.

Internships & New College Graduate Programs

Applied Materials invests in talent. Our Internship Program and New College Graduate Programs are designed to train and engage emerging technology professionals in a variety of disciplines and assist with the transition from academia to a corporate environment. We provide networking, leadership, and team building opportunities, giving participants both valuable business contacts and practical skills.
FAQs

Where are your opportunities located?
Santa Clara, California,
Austin, Texas
Gloucester, MA

Are there any security clearances or drug tests required to apply to Applied Materials?
Interns go through the formal interview process and will be asked to complete a basic employment application. Interns are not required to have security clearances. *Only our Austin, Texas location requires interns to complete drug tests.*

Does Applied Materials hire international students?
Yes, Applied Materials will hire and sponsor international interns and full-time employees.
Acceptable Visas include: J1, F1, and H1B

Does Applied Materials assist with housing or relocation?
A housing stipend will be provided for non-local students, which is meant to reimburse interns for expenses related to securing travel and temporary housing arrangements. We also provide ways for our interns to connect with each other (as appropriate) in case interns are interested in having a roommate for the summer.

Why Applied Materials?
http://www.appliedmaterials.com/university
Overview

Bose Corporate was founded in 1964 by Dr. Amar G Bose, then a professor of electrical engineering at Massachusetts Institute of Technology. Today, the company is driven by its founding principles, investing in long-term research to develop new technologies with real customer benefits. Bose innovations have spanned decades and industries, creating and transforming categories in audio and beyond. Bose products for the home, in the car, on the go and in public spaces have become iconic, changing the way people listen to music and engage with the world around them. Bose Corporation is privately held. The company’s spirit of invention, passion for excellence, and commitment to extraordinary experiences can be found around the world – everywhere Bose does business.

Divisions of Bose and the areas we work in

**Bose Health Division** – For years, we’ve developed innovative, high-performing products that help you get closer to your music and home entertainment. But we’ve always been more than our headphones and speakers. Our long-standing mission is to create products that improve people’s lives. And with Bose conversation-enhancing Hearphones™ and noise-masking sleepbuds™, we’re introducing the first of many products designed to help consumers and patients live a healthier, more engaged life.

**Bose Consumer Electronics Business** – In 1968, Bose introduced the 901 Direct/Reflecting speaker system, garnering the international acclaim and beginning a long history of challenging conventional thinking. For more than 50 years, Bose has developed audio products that have changed norms, defied trends, and delighted listeners including the new Home Speaker 500, the best way to experience the widest sound of any smart speaker. Over the past quarter-century, Bose has set a standard for excellence in the burgeoning headphones market. In 1989, it introduced the very first noise-cancelling headset for aviation, later adapting the concept for military use. Bose then applied that technology to the iconic QuietComfort headphones, a product line synonymous with unprecedented noise reduction, audio performance, and comfort – and now available in the wireless design with virtual personal assistance. But we believe there is a marker that goes beyond headphones to a new category of products called wearables. We’ve recently launched Bose Frames sunglasses, with audio and more built right into them. Now customers can bring along an everyday item, like sunglasses, and experience an audio augmented world that helps keep them heads-up and hands-free.

**Bose Automotive Sound Systems** – In the early 1990’s, Bose pioneered the automotive sound market with the first factory-installed premium sound systems custom-designed for individual car models. Since then, we’ve brought the power of sound to the road, where we can enrich the drive with emotion and meaning. We partner with carmakers around the world to make that a reality, providing custom audio
solutions for a wide range of vehicles. From the smaller, entry-level cars to crossovers, SUVs and pickup trucks, all the way to high-performance sports and luxury cars, Bose Automotive is there.

**Bose Professionals Systems** – In 1972, Bose introduced its first professional speaker for performing musicians. For more than 45 years, Bose Professional has developed innovative loudspeakers, electronics and software to meet the needs of demanding professional audio applications. Our products are sold through authorized pro-audio dealers, AV-system integrators and distributors. We provide substantial support for our distribution network, including product technical information, system design support and after-sale support. Bose sound is found throughout the world in performing arts centers, theaters, houses of worship, stadiums, restaurants, retail stores, corporate buildings and hospitality establishments. Our product offerings span Loudspeakers, Amplifiers, Signal Processing, Networking and software. We’ve also brought our expertise to products specifically designed for the musician, like the S1 PRO system.

Every division of Bose has a need for Electrical and Computer Engineering students. No matter your passion or interest, we can find an interesting project that will give you hands-on engineering experience while being a part of a team.

Examples of opportunities available:

**Embedded Software** – develop and test features ranging from board bringup with real time operating systems or Linux, embedded application development, desktop tools, human-computer interaction (UI), to drivers and more all using propriety and/or open source software.

**Digital Signal Processing** – explore new technologies, prototype product concepts, implement audio DSP software in MATLAB, C/C++ and assembly language. Validate signal processing algorithms and product performance through critical listening and simulations as well as electrical and acoustical measurements.

**Electrical Engineering: Hardware** – assist in the design, development and testing of new products and technologies including, but not limited to: development of circuits including processors, RF networking, signal processing and power electronics.

Some examples of intern job titles:
Audio System Tools Engineer
Software Engineer
Digital Signal Processing Software Engineer
Acoustical Engineer
Electrical Engineer
Wireless Networking Applied Research
Wearable Sensors Applied Research
Embedded Software Engineer
FAQs:
Where are the opportunities located?
- Boston, MA (Boston Landing)
- Framingham, MA
- Stow, MA

What is the hiring process?
For both interns and full-time, you will need to go through either a phone or in-person interview process with the Hiring Manager and be given an offer by the College Relations team.
There are no background checks or drug screens for interns.
All full-time employees must complete a background check.
You will go through a full-day orientation to connect with the other interns on your first day. In addition to your engineering internship project, you will have the chance to attend social and professional events throughout the duration of your internship to fully experience the Bose culture.

Does Bose hire international students?
Yes, acceptable visas include: J1, F1 and H1B

Is Housing or transportation offered?
Bose does not offer housing or transportation for interns, but we provide you with information on common housing options and connect you with the other interns to arrange housing and carpools.
There are shuttles that run to the Boston Landing office from areas within the city.
There is also a bus service available for purchase that runs from Boston Back Bay to the Framingham office park location:
https://metrowestexpress.com/

Financial Assistance:
Bose compensates on an hourly basis.

Interested in learning more?
Connect with the College Relations team, rebecca_abrahams@bose.com
We make roads and drivers safer around the world.

Cambridge Mobile Telematics’ (CMT) mission is to make roads safer around the world by making drivers better. The DriveWell platform, our complete telematics and behavioral analytics solution, provides actionable insights on driver behavior and vehicle dynamics to individuals, auto insurers, vehicle fleets, auto makers, wireless carriers and government agencies. With over a billion miles of driving data, our users have an average reduction of 35 percent in phone distraction, 20 percent in hard braking and 20 percent in at-risk speeding all within less than 30 days of using the program.

CMT employees thrive in a collaborative and fast-paced work environment; are excited to learn and problem-solve; and are committed to helping end-users become smarter, safer drivers.

Cambridge Mobile Telematics

Smarter Drivers. Safer Roads.
We are currently hiring full-time employees and interns for the following teams:

**The cloud team** is the backbone of CMT’s programs. It provides support for the mobile app and runs the processing pipelines. Team members will have the opportunity to enhance our customer-facing web portal, develop server software running on AWS and improve the scalability, security and reliability of our server infrastructure.

**The data team** works on the forefront of data science; building complex machine learning models to capture dangerous driving behavior, and turning raw data into actionable insights. You will leverage big data that enables customers and internal engineers to create algorithms that produce actionable insights.

**The mobile team** creates the interface used by millions of users all over the world. You will push the boundaries of current mobile platforms and attack complex challenges such as optimizing driving detection while minimizing battery consumption.

**The quality assurance team** ensures a positive customer experience. Team members translate product requirements into testable hypotheses and debug business processes and technology - exposing hidden assumptions and risks.

**The IoT team** develops the DriveWell Tag - a cost-effective Bluetooth tracking device. Members work hands on with Bluetooth hardware and signal processing antennas to more accurately record driving events.

**The operations and support team** is the lifeblood of CMT’s employees and customers. It maintains internal infrastructure and is a line of support for employees, customers and occasionally end users.

**The product team** requires interdisciplinary problem solving and planning. Along with guiding customers through the implementation process, the product team finds solutions to customer needs, defines new features for existing products and brings new products to the market.

**The marketing and design team** develops CMT’s brand and market strategies. On the marketing team you will create content, build audiences, manage campaigns and track customer success. As a member of the design team, you will help with the visual design of our app UI/UX, web portal and website; and create design components such as packaging, presentations and promotional materials.

We’re looking for curious and energetic individuals to join us. Interested? Apply at [cmtelematics.com/jobs](http://cmtelematics.com/jobs).
For more than seven decades, IBM Research has defined the future of technology. Our scientists, among them six Nobel Laureates and six Turing Award winners, have produced ten U.S. National Medals of Technology and five U.S. National Medals of Science. Along the way we helped put a man on the moon, defeated Kasparov at chess, and built a Jeopardy! champion named Watson.

Today, we are pioneering the most promising and disruptive technologies that will transform industries and society, including the future of AI, security, blockchain and quantum computing.

At IBM Research, you can achieve what others think is impossible. And in doing so, you’ll play a significant role in shaping the future.

Learn more about IBM Research
research.ibm.com
IBM Research—featured focus areas

With more than 3,000 researchers in 12 labs located across six continents, IBM Research brings together hundreds of researchers who possess unparalleled industry expertise to address some of the world’s most challenging problems. Join us as we do pioneering work in areas such as cognitive computing, augmented intelligence, quantum computing, and blockchain, to name a few.

IBM Research—Africa
– Nairobi, Kenya
– Johannesburg, South Africa

IBM Research—Almaden
– San Jose, CA, USA

IBM Research—Australia
– Melbourne, Australia

IBM Research—Brazil
– São Paulo, Brazil
– Rio de Janeiro, Brazil

IBM Research—Cambridge
– Cambridge, MA, USA

IBM Research—China
– Beijing, China

IBM Research—Haifa
– Haifa, Israel

IBM Research—Ireland
– Dublin, Ireland

IBM Research—India
– Delhi, India
– Bengaluru, India

IBM Research—Tokyo
– Tokyo, Japan
– Shin-kawasaki, Japan

IBM Research—Zurich
– Zurich, Switzerland

IBM Thomas J. Watson Research Center
– Yorktown Heights, NY, USA
– Albany, NY, USA

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Overview

Iterative Scopes is a technology company founded at MIT, focused on bringing precision medicine to Gastroenterology. Leveraging computer vision and machine learning algorithms at the core of its technological toolkit to deliver just-in-time actionable decision support tools to improve patient outcomes.

Sample 6A Assignments and Thesis Topics

- Applying computer vision / machine learning to improve polyp detection in colonoscopy
- Applying machine learning to enhance drug treatment prescription and dosage
- Using computer vision to quantify visual classification during medical procedures

Given the fast-paced nature of our technology development, participants in the 6A program will have the ability to work on a variety of different high impact projects and will have the ability to partially customize their assignments.

Other Information

Location for 6A assignment: 1 Main St, 11th Floor, Cambridge, MA 02142
Work Authorization Restrictions: None
Security Clearance Requirements: None
Drug-Free Workplace Requirements: None

MIT 6A Contact: Daniel.Wang@iterativescopes.com
Do you like to test your limits—to see what you can achieve? Maybe you aspire to do something important, audacious, world-changing. Or to work alongside the greatest minds in your field. Maybe you want answers to the Big Questions that have captivated humankind through the ages. You can discover all that and more at JPL.

About: The Jet Propulsion Laboratory—we call it JPL, or simply the Lab—is a federally funded research and development center (FFRDC) for robotic space and Earth science missions. We are managed by Caltech for NASA. Since the 1930s, JPL creations and discoveries have led to many of the nation’s “firsts,” including the first U.S. Earth-orbiting satellite, interplanetary spacecraft, lunar lander, planetary rover, and first spacecraft to leave the solar system. A unique blend of decades of experience, combined with a drive for innovation and development, propels JPL to consistently achieve success in our missions. Our role as an operating division of Caltech profoundly shapes the intellectual environment, while our relationship with NASA instills a sense of mission. Together, they allow us to serve the greater good. As our vision states, “We serve the nation by exploring space in pursuit of discoveries that benefit humanity.”

Culture: Part of the thrill of being at JPL is working with the experts in their fields. Our campus in the Southern California foothills fosters plenty of broadband intellectual exchanges through both planned and chance encounters with colleagues. Over time, such relationships have forged a culture that binds JPLers together—and sets them apart from everything else. When science, technology, and engineering collide, a workplace culture unlike any other is created, where creativity is not only encouraged, but also backed up by a deep ability and drive to achieve. At JPL, we all have a vested interest in each other, because our mission won’t succeed unless we all succeed. It’s a simple reality with a powerful effect—when you need help, it will always be there, because what elevates one will elevate us all.

While diversity and inclusion are worthy ideals, at JPL, they are more than that—they are mission-critical necessities. Our Lab depends on an inclusive workforce of independent-minded people. We seek out different voices to contribute to the science, engineering, technology, and business discourse. As the saying goes, if you get five JPLers together, you will have at least seven viewpoints. This give-and-take characterizes our meetings and decisions, and strengthens our designs, plans, and results. It’s also part of what makes working at JPL so stimulating, challenging, and fun. Consider the universe that we explore every day. There is nothing homogenous or monochromatic about it—and it is magnificent. Why should our workforce be any different?
Teamwork: There is no one “typical path” at JPL. Scientists at the top of their fields from planetary science to astrophysics; from geology to atmospheric science, work together with engineers who work from orbit design to power supplies, from to testing on the ground here, to operating spacecraft on the surface of other planets. People work across disciplines, education levels, skills, and specialties to achieve success. Everyone is encouraged to learn, grow, and expand as they progress in their careers, and pathways are always open to try and learn something new.

Purpose: Our scientific targets are spread across our planet, throughout our solar system, and out into the universe. Earth-orbiting satellites use the vantage point of Earth orbit to make observations of our ever-changing world, while planetary landers let us virtually touch the surface of other worlds. Telescopes from the vantage point of space are able to peer out beyond our current physical reach, and even discover thousands of new worlds around other stars that were once unimaginable.

Of these targets, we seek to answer some of the biggest questions that exist: how did the universe, our solar system, and life begin? How are they evolving now? Is there life beyond Earth? How can we improve humanity with what we discover and learn? Are you ready to tackle these problems and “dare mighty things?”

Opportunities: JPL has a wide variety of opportunities related to Electrical Engineering and Computer Science across our Engineering and Science Directorate, our Office of Safety and Mission Success, and our Information Technology and Solutions Directorate. These opportunities include:

- Artificial Intelligence and Machine Learning
- Autonomy and Control Systems
- Cybersecurity
- Data Science/Data Analytics
- Embedded Software/Flight Software
- Hardware & Software Quality Assurance
- Human-Computer Interactions
- Modeling and Simulation
- Software Verification and Validation

@NASAJPLCareers
Lawrence Livermore National Laboratory (LLNL), located in Northern California, is one of our nation’s top national security research and development centers. The country depends on us to anticipate and solve challenges facing our nation and the world. LLNL has been referred to as one of the nations “crown jewels” in addressing economic, energy and environmental security.

Electrical Engineering careers at Lawrence Livermore National Laboratory offer experience in many disciplines.

<table>
<thead>
<tr>
<th>Artificial Intelligence</th>
<th>Control Systems</th>
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<tr>
<td>Signal and Image Processing</td>
<td>Lasers</td>
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<td>Machine Learning</td>
<td>Optics</td>
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<td>Computer Vision</td>
<td>Optic-Electronics</td>
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<td>Electro-magnetics</td>
<td>Sensors</td>
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<td>RF/Radar/Communications</td>
<td>Autonomous Machines</td>
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<tr>
<td>Computational Electromagnetics</td>
<td>Electric Power/Grid</td>
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<td>Pulse Power</td>
<td>Cyber security</td>
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<tr>
<td>Electrical Hardware</td>
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Engineering has a history of innovative technology breakthroughs that have contributed to the safety and security of our country. Each summer we host approximately 600 students from universities across the country. Summer interns are assigned a mentor and a project in their field of interest. Students are encouraged to attend tours, talks and socials to learn about the breath of opportunities at Lawrence Livermore National Laboratory.
Room Rental and Roommate Opportunities: It’s common for LLNL employees, living in the immediate area, to open their home to students during the summer. Rents can range from $700 to $900 per month. LLNL employees have the opportunity to make rooms and other rental properties available to incoming summer students. You can access these housing opportunities through our Scholar Candidate System.
http://scholars-llnl.ttcportals.com/pages/housing

Employment Requirements: U. S. Citizenship is required for 6-A Students. All candidates must successfully complete a drug screen.

Travel/Relocation: LLNL provides reimbursement of travel expenses. Your employment offer will include travel authorization expense claim forms, travel allowance information and reimbursement instructions.

Transportation: Most student ride bikes to the lab although there is public transportation available to students that choose to live farther away.

6-A Opening: Currently 2 openings

Past Projects by EE Interns:

- Testing Magnetic Actuation of Polyimide-Nickel Probes Toward a 3D Brain-on-a-Chip Device
- Secure Data Transmission via Free Space Optic Communication
- Linear Variable Differential Transformer (LVDT) Signal Conditioning for National Ignition Facility
- Optical Throughput Calibrations in the Vacuum UV
- Improving Alignment Time of the National Ignition Facility Final Optics Assembly by Using Prior Alignments for a Better Estimate of the Initial Position
- Electrical Properties of Stainless Steel and Copper Powder in a Silicone Matrix
- Ground Penetrating Radar Array Vehicle Mount

6-A Students send applications to Beth McCormick, Engineering Recruiting Manager, mccormick11@llnl.gov
About Lockheed Martin

Headquartered in Bethesda, Maryland, Lockheed Martin is a global security and aerospace company that employs approximately 110,000 people worldwide and is principally engaged in the research, design, development, manufacture, integration and sustainment of advanced technology systems, products and services. Lockheed Martin has four business areas – Aeronautics, Missiles and Fire Control, Rotary and Mission Systems, and Space.

Aeronautics, home of the world-renowned Skunk Works®, delivers breakthrough capabilities and landmark aircraft that continually redefine flight. For more than 100 years, Lockheed Martin Aeronautics has been designing, building and sustaining the finest military aircraft in the world. Aeronautics is committed to the relentless research and development of high-performance aircraft, seeking innovative, low-cost design and manufacturing strategies, and delivering operational readiness for our customers’ missions to ensure continued relevancy for the life cycle of our products.

Rotary and Mission Systems (RMS) provides surface, air and undersea applications for U.S. military and international customers. The same expertise we provide to military customers is being applied to increase capabilities of U.S. and international civilian agencies. Strategic advances in systems intelligence enables our customers to fly large rotorcraft more safely and reliably as autonomous or optionally-piloted aircraft. The RMS vision is to set performance standards for our customers worldwide, every day with the best people, best systems, and best services.

Missiles and Fire Control (MFC) is a recognized designer, developer and manufacturer of precision engagement aerospace and defense systems for the U.S. and allied militaries. MFC develops, manufactures and supports advanced combat, missile, rocket, manned and unmanned systems for military customers that include the U.S. Army, Navy, Air Force, Marine Corps, NASA and dozens of foreign allies.

Space is where the future takes flight. Lockheed Martin Space builds the satellites and spacecraft that do amazing things in space for our government and commercial customers. Lockheed Martin-built satellites give earlier warning of severe weather, connect troops on the battlefield, and deliver GPS directions to a billion people worldwide. Through partnerships that raise global communications, weather forecasting, space exploration and national security to new levels, Lockheed Martin Space brings an unwavering commitment to help our customers succeed.
Work Locations for 6A Interns

Factors such as thesis topic and Lockheed Martin’s geographic concentration of related expertise affect the work location assignment of 6A students. Geographic work assignments would include Stratford, CT, Palmdale, CA, or Shelton, CT.

Examples of 6A Assignments & Thesis Topics

At Lockheed Martin, our days are full of imagination and discovery and creatively applying proven technologies to further our clients’ strategic mission. Potential 6A assignments and thesis topics could include these emerging and evolving concepts:  - Autonomy and Robotics - Machine Learning and Artificial Intelligence - Software and Electrical Engineering - Electromagnetic Spectrum

Citizenship Requirements

The ability to obtain and retain a US Department of Defense security clearance is required.

Compensation and Travel

Students participating in the 6A will be compensated and reimbursed for reasonable travel and lodging expenses incurred in transit to the designated work location and upon internship completion, return to MIT/Cambridge.

CONTACT: Darren Brock, Principal Research Engineer, darren.k.brock@lmco.com

WHY LOCKHEED MARTIN: At Lockheed Martin, we apply our passion for purposeful innovation to keep people safe and solve the world’s most complex challenges. You will experience:

Mission-Focused Innovations: From aerospace, to outer space, to cyberspace, we give you the chance to solve some of the world’s most complex challenges.

Foundational Values: Our culture of performance excellence, ethics, teamwork and inclusion is embedded in everything we do.

Diverse Career Opportunities with Meaningful Work: You can grow your career and skills for life with technology-driven learning platforms and programs that enable your development and agility.

Your Health, Your Wealth, Your Life: Our flexible schedules, competitive pay and comprehensive benefits enable you to live a healthy, fulfilling life at and outside of work.

Empowered to Be Your Best: Make a difference in the lives of others, our customers and our planet.

Lockheed Martin is an Equal Opportunity/Affirmative Action Employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, pregnancy, sexual orientation, gender identity, national origin, age, protected veteran status, or disability status.
About Micron

Micron Technology is a world leader in innovative memory solutions that transform how the world uses information to enrich life. Through our global brands — Micron, Crucial® and Ballistix® — and a team of over 34,000, we offer the industry’s broadest portfolio, and we are the only company manufacturing today’s major memory and storage technologies: DRAM, NAND, NOR, and 3D XPoint™ memory.

Micron Technology began in 1978 as a four-person semiconductor design company in the basement of a Boise, Idaho, dental office. In 1994, we earned a spot on the Fortune 500 and then steadily grew into an industry leader, playing an instrumental role in some of the world’s most significant technological advancements. Today, backed by 40 years of technology leadership and a patent portfolio of 40,000, Micron continues to collaborate with the world’s most trusted brands, and our solutions are enabling disruptive trends such as artificial intelligence, machine learning, and autonomous vehicles.

Company Locations

Headquartered in Boise, ID, Micron is a truly global company with 34,000 team members located in 18 countries. In the USA, Micron has sites in

- San Jose, CA
- Folsom, CA
- Manassas, VA
- Minneapolis, MN
- Austin, TX
- Longmont, CO
- Lehi, UT

A Future of Possibilities

For 40 years Micron has had a singular obsession with the role of memory in a world of infinite information. We’re not content to deliver memory that just fills a need — we create technology specifically designed to enable our customers to realize their fullest potential. Today, we are still creating and recreating, looking for ways that our technology can continue to enrich the world by providing faster and more efficient access to information. You can be a part of this journey. Let’s join forces and build a future of possibilities together.

Diversity and Inclusion

As a multinational company, we know that real innovation comes from our team members’ distinct experiences, perspectives, and backgrounds. We work diligently to attract the broadest possible talent pool in the regions where we operate because we hire the people who are inventing tomorrow. These
individuals come with untold ambition and unbridled curiosity that is rich, diverse and key to the organization’s success.

We do more than simply recruit a wide array of diverse candidates across our global team. Micron cultivates a diverse and inclusive culture in which our team members feel valued for who they are, how they think and how they solve problems. It’s a reciprocal environment in which talent can continuously grow and thrive.

The company hires a large number of international students and assists top candidates who need visa sponsorship in obtaining their H1B visa.

**Starting Your Career at Micron**

Every year, Micron hires about 350 interns and about 250 new college graduates. We assign meaningful and challenging projects to our newest team members so they can begin contributing immediately. Since we recruit the very best from a wide range of national universities, our expectations are high – only the extraordinary need apply!

**Internship Program Benefits**

To ensure an outstanding experience for our interns, in addition to competitive pay, Micron offers relocation and subsidized housing for all of our out of town interns. The interns are offered health insurance and are encouraged to enroll in the 401(k) program to take advantage of the company’s contributions.

During the summer internship program, our interns are invited to attend a large variety of events ranging from Tech Talks delivered by the company’s technical experts, luncheons with the Senior Executives, social events, and after-hours fun. In 2019, Micron internship program was ranked among the 100 Top Internship Programs in the nation.

In 2019, all 354 of our U.S.-based interns spent their summer working side-by-side with full-time team members on projects that affected real change within Micron and the memory industry. For a closer look at our 2019 intern pool, see the statistics below.

<table>
<thead>
<tr>
<th>Major</th>
<th>% of Total</th>
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<tbody>
<tr>
<td>Engineering</td>
<td>75</td>
</tr>
<tr>
<td>IT/Computer Science</td>
<td>10</td>
</tr>
<tr>
<td>Business / Supply Chain / Operations</td>
<td>5</td>
</tr>
<tr>
<td>Data Science / Analytics</td>
<td>7</td>
</tr>
<tr>
<td>Human Resources, Legal, Marketing</td>
<td>3</td>
</tr>
</tbody>
</table>

Connect with Micron at micron.com/careers and find your right job, right now!
INVENT THE FUTURE WITH US

YOUR FUTURE STARTS HERE

NVIDIA’s invention of the GPU sparked the PC gaming market. The company’s pioneering work in accelerated computing—a supercharged form of computing at the intersection of computer graphics, high performance computing and AI—is reshaping trillion-dollar industries, such as transportation, healthcare and manufacturing, and fueling the growth of many others.

FIND YOUR PERFECT FIT

There are endless opportunities at NVIDIA, and you have the freedom to explore them all. It is all about landing where you are the most valued, challenged, and inspired in your work.

Below are general hiring areas for NVIDIA. Check out where your skills fit and search for your area of interest at www.nvidia.com/university for more specific roles.
**RESEARCH**

**RESEARCH**
- PhD candidacy in CS, CE, EE, mathematics, physics, signal processing, statistics, neuroscience, or equivalent research experience in those fields
- Track record of research excellence with a strong publication record
- Familiarity with deep learning frameworks such as PyTorch or TensorFlow
- Knowledge of applications areas such as parallel algorithms, parallel programming systems, computer vision, robotics, NLP, or recommender systems

**Programming Skills:** Python, MATLAB, C, C++, CUDA

Check out research areas [here](#).

**APPLIED RESEARCH**

**APPLIED RESEARCH**
- Deep learning: theory and applications to NLP, Computer Vision, Graphics, Speech, Reinforcement Learning, or other domain
- Experience with deep learning frameworks such as PyTorch or Tensorflow

**Programming Skills:** Python and C/C++

**ARCHITECTURE**

**COMPUTER ARCHITECTURE**
- Knowledge and coursework in computer architecture, and one or more of focused areas (computer graphics, deep learning, ray tracing, parallel programming, memory architecture, and high-performance computing systems)
- Passion for learning/developing functional and performance simulators
- Understanding workload/architecture interactions, and analyzing RTL and silicon behavior
- Experience in one or more of these following fields: PC/Workstation/console graphics, hardware/software development, HPC (MPI, OpenMP), robotics, self-driving cars, rendering, or computer vision

**Programming Skills:** C++, scripting languages (Python, Perl), modern graphics APIs (DirectX, OpenGL, Vulkan), modern GPGPU APIs (CUDA, OpenCL), revision control (Perforce, Git)
### HARDWARE

**ASIC DESIGN**
- Familiar with digital systems, VLSI design, computer architecture, computer arithmetic, CMOS transistors and circuits

**Programming Skills:** Verilog/VHDL, C/C++, Perl

**VERIFICATION**
- Experience or relevant coursework in GPU or processor verification/validation
- Experience or relevant coursework with directed and random functional testing including writing test plans and directed/random diagnostics
- Experience or relevant coursework developing software infrastructure for validation of architecture

**Programming Skills:** Verilog, C/C++/UVM, Perl

**PHYSICAL DESIGN**
- Understanding of Synthesis, static timing analysis, clock/power distribution and analysis, RC extraction and correlation, place and route, and circuit design and analysis
- Tools: ICC2, Design Compiler, PrimeTime from Synopsys and First Encounter, Innovus, Virtuso from Cadence

**Programming Skills:** Perl, C, C++, TCL, Scheme, Python, SKILL and Make

### SOFTWARE

**DEEP LEARNING SOFTWARE**
- Experience in one or more of the following fields: computer vision, robotics, NLP, or recommender systems
- Basic knowledge of deep neural networks with experience in developing deep learning frameworks such as PyTorch and TensorFlow
- Understanding of mathematical fundamentals, including linear algebra and numerical methods
- Outstanding algorithms and software design skills, including debugging, performance analysis, and test design
- Foundations of the computer memory model (disk, memory, caches), CPU and GPU architectures, networking, numeric libraries, and modular software design
- Experience in design and development of embedded systems, drivers and real-time software

**Programming Skills:** Python, C, C++, CUDA
| COMPILER | > Compiler development or compiler test experience or coursework  
| > Knowledge of open source projects like CLANG, LLVM, or gcc  
| > Knowledge of high-performance computing  
| > Experience in testing production software or test automation  
| > Experience with deep learning compilers, e.g. XLA, TVM, Halide  
| **Programming Skills:** C++, C, CUDA, Python |
| SYSTEMS SOFTWARE | > Familiarity with operating system concepts (threads, process control, memory/resource management, virtual memory, etc.)  
| > Experience writing and debugging multithreaded programs  
| > Familiarity with computer system architecture and microprocessor fundamentals (caches, buses, memory controllers, DMA, etc.)  
| > Experience with kernel development (Linux, QNX, or Windows) or RTOS development on embedded platforms  
| > Knowledge of data structures and algorithm time/space complexity  
| **Programming Skills:** C, C++ |
| GRAPHICS SYSTEMS SOFTWARE | > Excellent math skills and theory knowledge  
| > Familiarity with 3D/2D graphics theory, implementation, and optimizations  
| > Simulation or emulation experience – writing and debugging tests  
| > Knowledge of computer architecture (e.g.: x86, ARM CPUs, GPUs)  
| > Experience in device drivers, operating systems, real-time systems, game console middleware, or other low-level library development  
| > Very strong problem solving and debugging skills  
| **Programming Skills:** C, C++, Direct3D, Vulkan, OpenGL, OpenCL, CUDA |
| SOFTWARE CLOUD | > Experience with development of high quality and highly distributed cloud-based RESTful web services  
| > Experience with cloud infrastructure, cloud-scale software, continuous integration and continuous delivery, and automation/scripting skills  
| > Understanding of cloud design in the areas of virtualization and global infrastructure, distributed systems, load balancing, security  
| > Data and performance analysis tools, debugging skills, and system virtualization skills  
| > Experience with kernel development for Linux, Android, Chrome, or Windows  
| > Knowledge of Kubernetes and Docker  
| **Programming Skills:** C++, Java |
| SOFTWARE SECURITY | Harden and develop secure solutions across our software stack — spanning multi-node supercomputers down to microcontrollers and security co-processors  
| | Build tools and infrastructure to scale security efforts across large organizations and codebases with millions of lines of code  
| | Knowledge of operating and system software, secure design principles, with understanding of common vulnerability and mitigation patterns  
| | Exposure to security methods like static/dynamic analysis, fuzzing, negative testing and design analysis such as threat modeling or attack trees  
| | Experience with trusted computing or formal verification technologies and tools, e.g. SPARK, Frama-C  
| **Programming Skills:** | C, C++, SPARK, Frama-C, Scripting languages (Python, Bash), Fuzzing tools (AFL, libFuzzer), Data processing (Kibana, Grafana), CI/CD (Jenkins)  
| SOFTWARE TOOLS INFRASTRUCTURE | **Software Developer for GPU Development Tools**  
| | Model, analyze, and debug the development of next generation GPU hardware and drive performance improvements  
| | **Programming Skills:** OOP, C++, Python, Perl and/or Graphics & GPGPU APIs (Vulkan, DirectX, OpenGL, CUDA, OpenCL)  
| | **Software Developer for Chip Design, Validation, and Workflow Tools**  
| | Develop software to enable the design and validation of NVIDIA's next generation of chips to support the entire hardware design lifecycle— from high-level architectural modeling all the way down to silicon implementation  
| | **Programming Skills:** C++, Python, Unix shell, CS theory (e.g. graphs, compiler design, operating systems, distributed systems, micro-services architecture, logic synthesis, simulation, and computational geometry)  
| | **Software Developer for Metrics, Process Management, and Compute Infrastructure**  
| | Work on distributed/scalable application and system designs to enable NVIDIA’s chip design process that is required for analyzing data, building/verification, and project tracking/management  
| | **Programming Skills:** Scripting languages (Python, Go, Javascript), Data processing (ElasticSearch, Kibana, Grafana, MongoDB), Java, Gitlab, Jenkins  
|
TECHNICAL SALES

SOLUTIONS ARCHITECT

- Graduating with a BS or MS degree in a related technical field, or an advanced degree/MBA program
- Knowledge of SW and HW business models
- Analytical, marketing, and project management skills
- Familiarity with deep learning frameworks such as PyTorch or TensorFlow
- Excellent communication and presentation skills

This is a rotational program where New College Graduate will spend 18 months rotating quarterly through customer-facing teams supporting different industries such as hyperscale cloud service providers, automotive, retail, healthcare and finance.

**Programming Skills:** C, C++, Python, CUDA

BUSINESS/OPERATIONS

We have roles in product management, marketing, finance, and operations across multiple teams at NVIDIA.

Whether you are pursuing a BS, MS, or PhD in a related field OR currently enrolled in an MBA program, we are looking for diverse talent to come make an impact in these roles.
WHAT WE DO.

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WHERE WE WORK.

> Austin, TX
> Durham, NC
> Pittsburgh, PA
> Toronto, Canada
> Bethesda, MD
> Hillsboro, OR
> Redmond, WA
> Westford, MA
> Boulder, CO
> Holmdel, NJ
> Santa Clara, CA
> Champaign, IL
> New York, NY
> Seattle, WA

A TRULY INCLUSIVE CULTURE.

> EVERYONE IS WELCOME. Every background offers a new perspective that can only help us grow smarter and better.
> EVERYONE HAS A VOICE. Great ideas drive us, no matter who or where they come from.

HOW TO APPLY.

1. EXPLORE INTERNSHIP AND NEW COLLEGE GRADUATE OPPORTUNITIES. Check out our general hiring areas above and see where your skills and interests may fit. Search for your area of interest at www.nvidia.com/university and apply directly there!

2. GET NOTICED. Make sure your resume aligns with the roles you’re interested in. Our teams like to see your technical and programming skills through cool projects.

3. HEAR BACK. Once your online application has been submitted; you will hear back within 2-3 weeks if there is a match.

If you met us at an event or career fair, you still need to apply online and will hear back within 2-3 weeks if there is a match.
Company Description
Signify, the new company name of Philips Lighting, is the world leader in lighting for professionals, consumers and lighting for the Internet of Things. Our energy efficient lighting products, systems and services enable our customers to enjoy a superior quality of light, and make people’s lives safer and more comfortable, businesses more productive and cities more livable. With 2018 sales of EUR 6.4 billion, approximately 29,000 employees and a presence in over 70 countries, we’re unlocking the extraordinary potential of light for brighter lives and a better world. Signify Research is a global team with presence in Cambridge, where performance is powered through diversity. We shape the future of light in the Internet of Things and work on our commitment to achieve a more sustainable future.

Project description
Imagine lights that personally illuminate a space for whomever is in a room and how they feel. At Signify Research, we are working on context-aware adaptive scene recommendation solutions for our connected home lighting systems. These lights can be remotely controlled and change to any color, hue, and mood. Based on user-system interactions for millions of customers, we work to design a recommender system to automatically knows the best lighting recipe given activity, space, user’s preferences, day and time.
COMPANY DESCRIPTION:
Sky is a British telecommunications company and Europe’s largest pay-TV broadcaster. With a headquarter located in London UK, Sky has operations in the UK, Ireland, Germany, Austria, Italy and Spain, serving 22 million customers from 11 million connected homes with market-leading Sky TV and entertainment experiences. Sky is also offering services including flexible NOW TV contract-free streaming services, broadband, mobile phone network and line rental services. 10 million homes have registered for Sky Go, Sky’s own mobile TV service with over 3 billion annual views to on-demand contents. Sky is at the forefront of innovation, leading the way in broadcasting engineering, advertising technology, content discovery technology, voice search, image and video processing, data analytics and many other technical areas. “Believe in better” is Sky’s culture and we welcome talents to join our journey of innovation.

LOCATION OF WORK:
Sky headquarter campus, West London, UK

EXAMPLES OF TYPICAL 6-A ASSIGNMENTS AND 6-A THESIS TOPICS:
• Learning mood perception from movie posters and video streams.
• Hierarchical semantic scene interpretation by linking spatial-temporal visual events in videos.

DRUG AND ALCOHOL POLICY:
All internship students should follow all Sky policies.

CONDITIONS OF EMPLOYMENT OF FOREIGN STUDENTS:
Sky internship opportunity is open to students from all countries. Students with UK or EU passports have no restriction on working in UK. Students with passports from countries outside EU are required to apply for UK Visa. More information will be available soon.

HOUSING AND RELOCATION INFORMATION:
Internship students are expected to find their own accommodations. Sky may provide advices, all following Sky’s company policies.
PERSONAL TRANSPORTATION NEEDS AND AVAILABILITY IN AN ASSIGNMENT AREA:
Sky campus is close to London Heathrow Airport.
Public transportation services, including trains, underground and buses, are all available around Sky’s campus.
Moreover, Sky provides free shuttle bus services linking Sky’s main campus to various underground stations.

DETAILS OF FINANCIAL ASSISTANCE GIVEN DURING GRADUATE WORK TERM (if any):
Sky will pay salary to internship students during graduate work term.

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