



MIT M.Eng.
Thesis Program

*Working with companies to solve
hard technical problems for 100+ years*

Student Handbook

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



"My 6-A 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 6-A 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, [TITLE]
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 51st revised annual edition of the Student Handbook and the 102nd 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 students interested in obtaining 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?

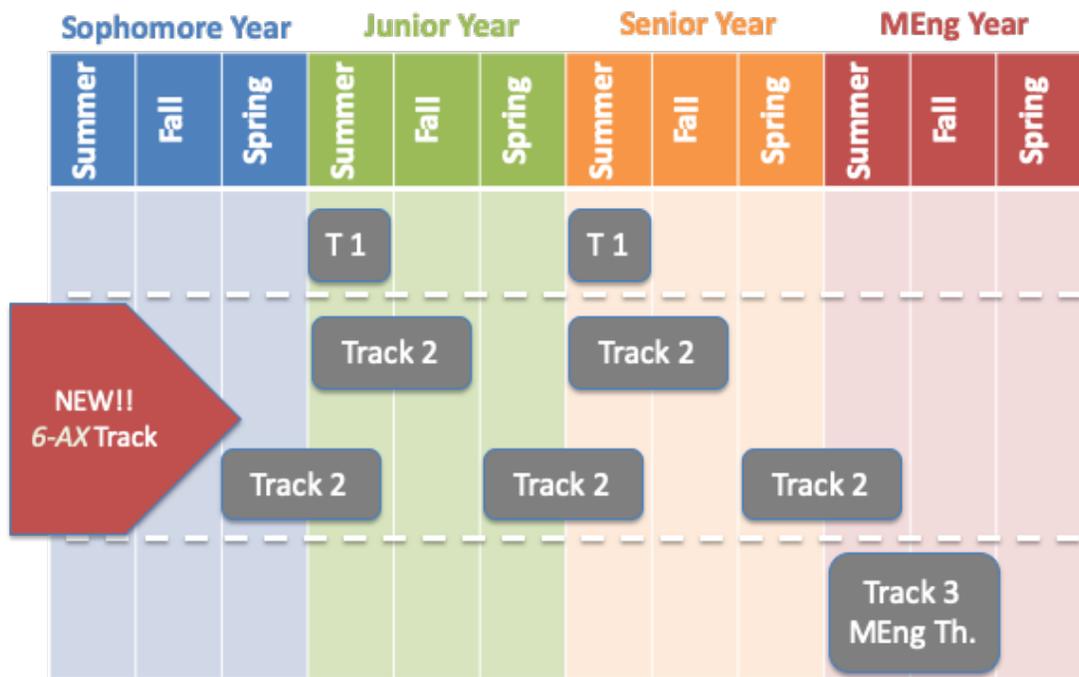
The 6-A Program helps MIT EECS students to do impactful full-time internships in industry and government labs. Many of the students in the 6-A program are interested in pursuing their M.Eng. degree, and the program allows them to use the work done at the company during the M.Eng. year towards their MEng 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, also known as 6-AX, is new this year and provides full-time 6-to-8-month internships to undergraduate students.

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.



Who Can Apply?

Any 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 an Orientation Meeting in September. This meeting is a great opportunity for students to learn more about the 6-A Program and member companies, prior to the 6-A application deadline in early October.

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 in October 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. 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.

Formal interviews take place for two days. (For tips on interviewing, please see Appendix C.) A student's individual "6-A Interview Schedule" will be emailed to the applicant prior to the Interview days.

If a company you would like to talk to is not in your "6-A Interview Schedule", please talk to them during the 6-A breakfast on October 29, 2019 at 8:30am in the Grier Room (34-401).

After the interviews, feel free to continue talking to the companies you are interested in and make sure you tell them you are interested in them. Companies have until November 12, 2019 to submit a ranked list of students selected for consideration. After this date, the 6-A program

then matches 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. 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. Can I take on-line classes during my work assignment?

A. This year, the 6-A program is running a pilot program that allows 6-A students to take up to 2 classes online during their work-assignment and make them count towards their degree requirement. The details and approval process for this are still being developed, however if there is any specific MITx or edX class that you are interested in and you would like to try to use towards your degree, please let us know and we will work with you to see what can be done.

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:

<http://6a.mit.edu/faqs/sample-theses>

And more information on the logistics can be found here:

<http://www.eecs.mit.edu/academics-admissions/undergraduate-programs/6-p-meng-program/thesis-guide>

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?

- A. A Graduate Student in Track 1 of the 6-A program generally presents a "Thesis Proposal" (<http://www.eecs.mit.edu/ug/thesis-guide.html>) to the 6-A Company and Department by IAP of the senior year. To be accepted by MIT this proposal must be accompanied by a special "Thesis Proposal Agreement Letter" (<http://www.eecs.mit.edu/ug/thesis-guide.html>) from the 6-A Company. A sample of such a letter is a part of the legal "Agreement" made with each company and is incorporated in our Department Memorandum, "The Masters of Engineering Thesis Guide: Course VI Thesis Policies and Procedures."

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 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:

https://oge.mit.edu/wp-content/uploads/2018/01/Thesis-Hold-Request-Form_2017_10.pdf

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 2019, 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. The 6-A Fellowship also guarantees a Teaching Assistantship appointment or tuition support during the last term of their M.Eng. year, when they are back to campus full time. 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 2019, 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: June 11, 2019

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 2019 summer session, the full tuition will be \$2,240. For the 2019-2020 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 \$9,015. 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 2019-2020 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 \$25,760 for which \$9,960 is paid by the 6-A Fellowship and summer tuition of \$2,240 and the remainder of \$15,130 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:

TABLE I

	Fall Term	Spring Term
1 term full tuition	\$26,725.00	\$26,725.00
½ annual medical insurance (est.)	\$1,634.50	\$1,634.50
1 term stipend	\$14,845.50	\$14,845.50
	<hr/>	<hr/>
	\$43,205.00	\$43,205.00

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, 2019 – January 15, 2020. 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 the maximum amount of 6-A support will be any remaining funds in your 6-A Fellowship, typically around \$15,130. 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 \$14,845.50 taxable stipend, in total worth about \$40,000.00 in 2019-20 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 2019.** 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 \$15,130. 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 2019 6-A Fall Recruitment

September 18, 2019
Orientation and Open House
Grier Room 34-401
5:00 PM - 6:30 PM

September 19, 2019
ICP/6-A Job fair
Grier Room 34-401
3:30 PM - 6:30 PM

September 2019						
SUN	MON	TUE	WED	THU	FRI	SAT
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

October 1, 2019
6-A Applications Due
4PM on-line or in the
6-A Office 38-409H

October 29, 2019
6-A Business Meeting for
Company Representatives and
Student Networking Breakfast
Grier Room, 34-401
8:30 AM - 10:00 AM AM

October 29-30, 2019
Company Interviews
Grier Room 34-401
9:00 AM - 5:00 PM

October 2019						
SUN	MON	TUE	WED	THU	FRI	SAT
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

November 12, 2019
Company Student Selection
Lists Due

November 19, 2019
Company Student Selection
Lists Available
See Kathy Sullivan, 38-409H

November 2019						
SUN	MON	TUE	WED	THU	FRI	SAT
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

December 2, 2019
Students Ranking Due
Send to Kathy Sullivan,
38-409H

December 5, 2019
Matching Lists Available
See Kathy Sullivan, 38-409H

December 10, 2019
Students Sign 6-A Agreement
See Kathy Sullivan, 38-409H

December 16, 2019
Last Day for Current 6-A
Seniors to Withdraw From 6-A
Program

December 2019						
SUN	MON	TUE	WED	THU	FRI	SAT
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

May 29, 2020
MIT Commencement
CONGRATULATIONS
6-A GRADUATES!

May 2020						
SUN	MON	TUE	WED	THU	FRI	SAT
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

June 1-August 28, 2020
Summer Work Period
Sept. 8-Dec. 18, 2020
Fall Work Period

June 2020						
SUN	MON	TUE	WED	THU	FRI	SAT
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

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:

<http://gecd.mit.edu/jobs-and-internships/interviews-and-offers/interviewing>.

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

<http://mitcommlab.mit.edu/eecs/>

Appendix D.

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) do not count against Optional Practical Training time (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/>

6-A and Curricular Practical Training

Because the 6-A Program gives academic credit for work performed at the 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) in the International Students Office (5-133) will gladly assist you in any way she can.

Appendix E. 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 Anthony Sharon, Deputy Executive Vice President (who is serving as Interim Vice President for Human Resources), Building 4-204, 617-253-3928. 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 in January 2019.

Appendix F.

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>



Join Analog Devices' Design Gurus

To Solve the Toughest Problems

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 15,800 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."

—John Gardner, VI-A Alumnus (2008)

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

Other opportunities may exist in our regional offices:

- ▶ Greensboro, NC
- ▶ Colorado Springs, CO
- ▶ Phoenix, AZ
- ▶ Limerick, Ireland
- ▶ Shanghai, China

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



AHEAD OF WHAT'S POSSIBLE™

Analog Devices, Inc.
Visit analog.com

For regional headquarters, sales, and distributors or to contact customer service and technical support, visit analog.com/contact.

Ask our ADI technology experts tough questions, browse FAQs, or join a conversation at the EngineerZone Online Support Community. Visit ez.analog.com.

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BR21537-6/19



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

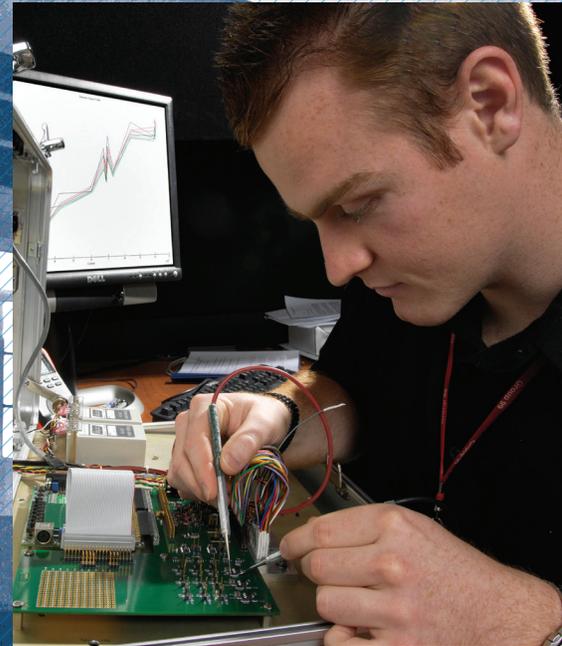
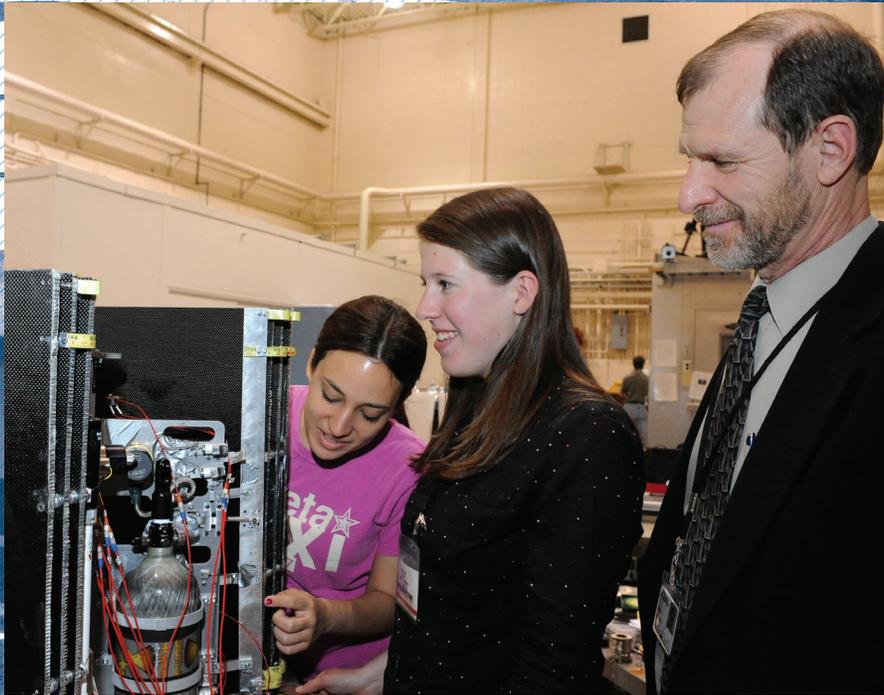
Draper is an independent not-for-profit advanced engineering research & development company located in Cambridge, Massachusetts. Draper originated in the 1930's as the MIT Instrumentation Laboratory, and became independent in 1973. Draper's historical engineering credentials include design and execution of the inertial navigation system that enabled the safe landing of the Apollo capsule on the moon in 1969. Since then, we have expanded our capabilities into software, hardware, systems, and materials to address a wide range of challenges in space, national security, and biotechnology. Draper's multidisciplinary teams, ranging from biologists to advanced material scientists to world-class engineers, are uniquely suited to execute on next-generation "impossible" engineering challenges, bringing blue sky ideas into reality through design, prototype, test, and build. Examples of our work are at www.draper.com.

We are located 1 block from the MIT campus in Technology Square. Draper offers a variety of opportunities for research ranging from concept development and analysis through design and development of applications of advanced technology. Draper typically hosts over 100 students at any time through a variety of programs, including the MIT VI-A program. Student projects are tailored to match Draper and student interests. Tuition and stipend will be covered according to MIT and Draper agreement.



MIT Lincoln Laboratory

Create Prototype Deliver





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.

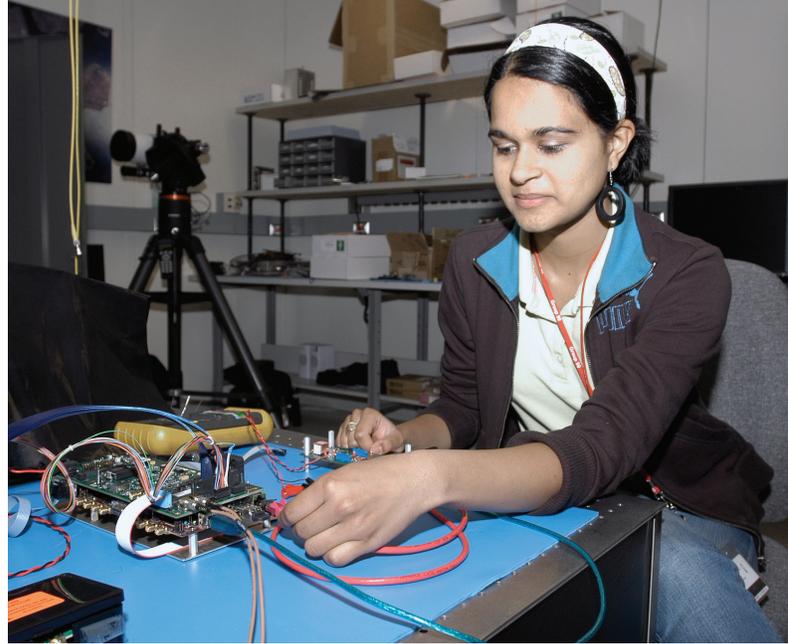
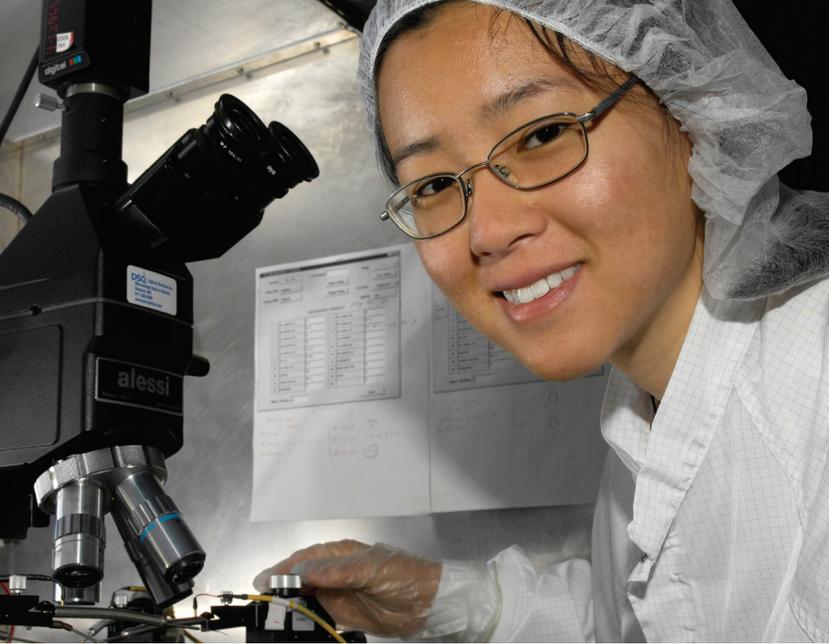
Major Capabilities and Research Areas

- 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

Diversity & Inclusion
MIT Lincoln Laboratory

Follow us on     

www.ll.mit.edu

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WE ARE THE DATA AUTHORITY.



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:

AI & BIG DATA

TENSORFLOW
PYTORCH
DATA SCIENCE/ML TECHNIQUES
HIVEQL
ELASTICSEARCH

SOFTWARE

REACT
ANGULAR
DOCKER
MONGODB
PYTHON
GRAFANA

CLOUD

AWS SERVICES
GOOGLE CLOUD
AZURE
CLOUD INFRASTRUCTURE
HYBRID CLOUDS

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.*

 **NetApp**[®]

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.

 **NetApp**
INSIGHT
2018

THIS IS HOW WE CELEBRATE INNOVATION.

Appendix G.

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 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/company/careers/university>

World's #1 semiconductor and display equipment company



\$10.8 billion
revenue



\$1.5 billion
R&D investment



>10,200
patents



AMAT stock
listing on
NASDAQ



Headquartered
in California's
Silicon Valley



~15,600
employees
82 locations
in **17** countries





Overview

Bose Corporation 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



Join us to make roads and drivers safer around the world.

At **Cambridge Mobile Telematics (CMT)**, our 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. ***MIT VI-A Interns can expect generous benefits including a competitive monthly stipend, 401(k) plan and company match, and subsidized MBTA passes.***

International students with valid J-1 and F-1 visas are welcome, and H1B sponsorships are available.



Smarter Drivers. Safer Roads.



Engineering at CMT is organized into several groups, all of which work closely and interdependently with one another. VI-A assignments are created collaboratively based on a student's interests and the needs of our customers.

The Cloud Group 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 Group 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 enabling customers and internal engineers to create algorithms that help to improve driver behavior.

The Mobile Group 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 Group 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 Group 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 Product Group 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

Equal Opportunity Employer

Cambridge Mobile Telematics provides equal employment opportunities to all employees and applicants for employment and prohibits discrimination and harassment of any type without regard to race, color, religion, age, sex, national origin, disability status, genetics, protected veteran status, sexual orientation, gender identity or expression, or any other characteristic protected by federal, state or local laws.

About Cell Signaling Technology

Cell Signaling Technology (CST) is a private, family-owned company, founded by scientists and dedicated to providing the world's highest quality, innovative research and diagnostic products to accelerate biological understanding and enable personalized medicine. The mission of our Bioinformatics Department is to foster excellence in the art of combining data integration, software development, computer science, mathematics, and artificial intelligence, in order to decipher complex biological processes, enhance product development, and contribute to translational research.

VI-A at CST

Our employees operate worldwide from our U.S. headquarters in Massachusetts, and our offices in the Netherlands, China, and Japan. This year, CST is hiring one VI-A student for the Bioinformatics Department in Danvers, Massachusetts.

VI-A Projects

Student assignments are determined by matching the student's interest with our research projects. In particular:

Most biological operations at the cellular level are performed by proteins. In humans for example, there are about 20000 genes encoding those proteins. Like pieces of a puzzle, those proteins are able to assemble entire organisms. Proteins orchestrate a variety of processes that far exceed their numbers by taking part in a myriad of different interactions with each other. Many of those interactions are controlled by natural biochemical modifications applied to the amino acids that constitute those proteins. We refer to them as Post Translational Modifications (PTMs). Regulated networks of interacting proteins are responsible for normal cellular functions. Tumors for example are groups of cells where one or more networks have lost their ability to control (stop) grow. It is therefore important to understand protein regulation to offer biomedical solutions.

At phosphosite.org, we curate and offer the scientific community the world's most comprehensive record of phosphorylation events, which are the most common type of PTMs. Although thousands of PTM events are known and some of them are understood, there are potentially thousands events more awaiting to be discovered.

We are interested in using machine learning tools like TensorFlow to help us identify those unknown phosphorylation events and also to help us identify the most probable enzymes responsible for those modifications--called kinases. Identifying those kinases can help even more to understand and potentially control cellular processes.

Foreign Student Employment

CST does not sponsor visas.

Drug-Free Workplace Requirements

CST does not have a policy on drug testing or screening.

Transportation

Our headquarters is located in Danvers, MA, about 25 miles driving distance from Cambridge or Boston. Public transportation is available including a shuttle from the Beverly commuter rail station to CST offices; however access to a car may be more convenient.

Financial Assistance

As a 6A affiliate CST provides a salary for the summer and on-site semester.

Additional Information

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

Dr. Florian Gnad (florian.gnad@cellsignal.com)

Dr. Ivan Gregoretti (ivan.gregoretti@cellsignal.com)

Chris Falling (cfalling@cellsignal.com)

Additional Resources

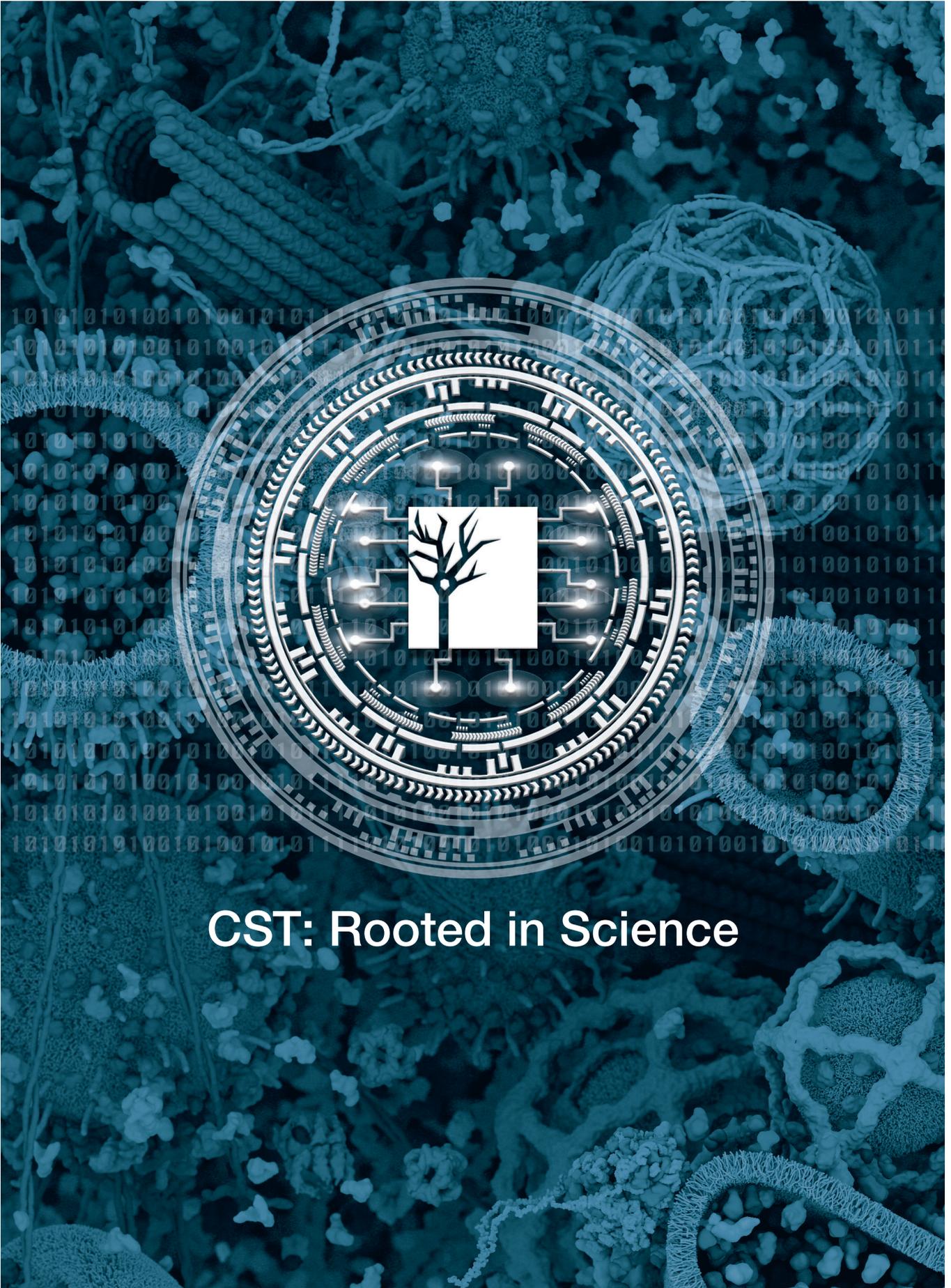
The following articles provide information on related research:

Gnad, F. et al. (2016) Phosphoproteome analysis of the MAPK pathway reveals previously undetected feedback mechanisms. *Proteomics*. 16, 1998–2004.

Hornbeck, P.V. et al. (2015) PhosphoSitePlus, 2014: mutations, PTMs, and recalibrations. *Nucleic Acids Res*. 43, 512–520.

Gnad, F. et al. (2010) Predicting post-translational lysine acetylation using support vector machines. *Bioinformatics* 26, 1666–1668.

Gnad, F. et al. (2007) PHOSIDA (phosphorylation site database): management, structural and evolutionary investigation, and prediction of phosphosites. *Genome Biology* 8, R250.



CST: Rooted in Science

To learn more about CST, please visit www.cellsignal.com.



Iterative Scopes

Iterative Scopes Inc.
711 Atlantic Ave, FL 6
Boston, MA 02111
www.iterativescopes.com

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: 711 Atlantic Avenue, 6th Floor, Boston, MA 02111 (next South Station (red line))

Work Authorization Restrictions: None

Security Clearance Requirements: None

Drug-Free Workplace Requirements: None

MIT 6A Contact: Daniel.Wang@iterativescopes.com



MIT 6-A

Lawrence Livermore National Laboratory (LLNL) is one of the largest Department of Energy defense labs. The Lab's primary mission is to ensure the safety and security of the United States nuclear stockpile. LLNL is a high-performance computing (HPC) laboratory hosting the second fastest computer in the world today. We address multiple missions and security levels and strive to simultaneously make best use of today's technology while aggressively pursuing future technologies.

At LLNL, our greatest asset is our people. We have a motivated and agile workforce that can easily move between, and apply their skills to, different projects, disciplines, or even industries.

As a multidisciplinary applied science laboratory, LLNL has scientists and engineers with extensive experience applying computational solutions to a broad set of technical problems in fields such as materials science, energy, nanotechnology, and bioscience.

We welcome MIT students interested in cutting edge technology with a purpose!

As an ECE major you will be working in one of two directorates depending on your interest: Computation or Engineering. Our computer scientists and engineers work on projects on the world's largest laser to chips for the brain that will impact brain damage and disease.

Location: All 6-A assignments are in Livermore California. Livermore is located in a beautiful wine county located approximately 50-miles East of San Francisco.

Citizenship: Most of our work is classified and our goal is to take you from student to full time hire, we prefer students with US Citizenship.

Drug tests are required for all internships.

Housing: We do not provide compensation for housing but offer support for finding housing during your internship.

Personal Transportation: Many students find housing within 5 miles of the Laboratory and take their bike to work.

Financial Assistance: Masters students are paid \$1600 a week during their internships. If hired, we offer tuition reimbursement for MS or PhD degrees. Local universities include Stanford, UC Berkeley and UC Davis

Sample Projects:

Adaptive Optics work with leading experts in the fields of [adaptive controls](#) and [dark matter](#) to develop engineering solutions in control systems and high-speed instrumentation for quantum information systems.

The student will have flexibility to determine the emphasis of their efforts; options include evaluation and implementation of novel algorithms for National Instruments USRP FPGA- based software-defined-radio targets, C++/Python/LabVIEW host applications design, state- space algorithms development.

Cyber Security: Conduct research on developing a mathematical framework for detecting spoofing attacks injected into streams of normal data. This is a hierarchical framework, and the student will develop the optimum framework, and how to cluster the various constituent components, in order to best detect such attacks.

RF/microwave sensing in challenging environments. Electromagnetic waves at high frequencies (RF/microwave) are an effective and versatile probe for complex materials because they readily penetrate a variety of materials and their short periods permit measurement of relevant transient events. This project involves the utilization of RF/microwave high-frequency techniques to sense and characterize critical aspects within challenging and dynamic environments.

MIT 6A Contact: Beth McCormick mccormick11@llnl.gov

Lockheed Martin. Your Mission is Ours.®

Every day, our 105,000 employees come to work with one focus – our customers' missions. Whether it's protecting citizens or advancing the boundaries of science, these missions are some of the most important and challenging in the world. We bring an unwavering commitment to help our customers succeed, and it's that sense of purpose and opportunity to make a difference in the world that drives us every day.

Lockheed Martin, headquartered in Bethesda, MD, is a global security and aerospace company with offices worldwide and is principally engaged in the research, design, development, manufacture, integration, and sustainment of advanced technology systems, products, and services.

Our Businesses

Our corporation is organized around our core business areas: Aeronautics, Rotary and Mission Systems (RMS), Missiles and Fire Control (MFC), Space, and Enterprise Operations.

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.

Join us at Lockheed Martin, where your mission is ours. Our customers tackle the hardest missions – those that demand extraordinary amounts of courage, resilience and precision. In a time of growing unpredictability and evolving threats, innovation and performance are at the center of everything we do. Our amazing employees are on a mission to make a difference in the world, and every day we use our unique skills and experiences to create, design and build solutions to some of the world's hardest engineering problems.

CONTACT: Sunny Wicks, Senior Research Engineer, Lockheed Martin RMS
sunny.s.wicks@lmco.com

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.



Major	% of Total
Engineering	75
IT/Computer Science	10
Business / Supply Chain / Operations	5
Data Science / Analytics	7
Human Resources, Legal, Marketing	3

Connect with Micron at micron.com/careers and find your right job, right now!

posh.tech

Conversational AI

The logo for posh technologies, featuring the word "posh" in a large, white, lowercase sans-serif font, with "technologies" in a smaller, white, lowercase sans-serif font directly below it. The logo is centered on a solid blue rectangular background.

Location: Downtown Boston

Contact: karan@posh.tech

Website: www.posh.tech

Positions:

Software Engineer

ML/NLP Engineer

Software Engineer

Do you enjoy working on mission-critical, scalable systems in Node.js, Python, and Golang? How about Kubernetes, Docker, AWS, GCP, and Linux OS? We are looking for passionate engineers who want to learn and grow with us, and help us build AI products that our customers love.

ML/NLP Engineer

As a conversational AI startup, we develop and continually iterate on NLP models for intent recognition, entity parsing, tone/sentiment analysis, and knowledge aggregation. If you're interested in working on productizable deep learning models using TensorFlow/PyTorch and researching state-of-the-art topics like document classification, generative pretraining, and model compression, let's chat - we'd love to have you!

About Posh

Posh is a Boston-based (near South Station) conversational AI platform startup founded out of MIT CSAIL in June 2018. We're currently a team of about fifteen (mostly engineers) developing an end-to-end platform to power more humanlike, context-aware bots across voice and messaging channels. A majority of our customers today are multi-billion dollar financial institutions leveraging our solutions to automate customer service & banking interactions 24/7/365.



sumo logic

Sumo Logic At-a-glance

Sumo Logic® is a secure, cloud-native, machine data analytics platform, delivering real-time, continuous intelligence from structured, semi-structured and unstructured data across the entire application lifecycle and stack. With Sumo Logic, customers gain a service-model advantage to accelerate their shift to continuous innovation, increasing competitive advantage, business value and growth.

The Company

The company Sumo Logic was founded in 2010 by experts in log management, scalable systems, big data, and security. We imagined a world of Yottabyte-scale machine data, where machine learning algorithms and advanced analytics could make sense of it all. Today, our purpose-built, cloud-native platform analyzes more than 100 petabytes of data, more than 30 million searches, and delivers 10s of millions of insights daily – positioning Sumo Logic among the most powerful machine data analytics services in the world. Our mission is to democratize analytics, making it accessible, simple and powerful for businesses of all sizes to build, run and secure their modern applications and cloud infrastructures. With Sumo Logic, customers can harness the power of machine data to gain operational, security and business insights that provide a competitive advantage and differentiated customer experience.

Award-winning Sumo Logic service

Award-winning Sumo Logic service Sumo Logic's cloud-native, real-time machine data analytics service simplifies how you collect and analyze machine data so customers gain deep visibility across the full application lifecycle and infrastructure stack. With Sumo Logic, organizations can: - Accelerate modern application delivery - Monitor and troubleshoot in real time - Improve security and compliance posture - Innovate in the cloud with security and confidence Unlike other traditional on-premise and disparate solutions which can be cumbersome and don't scale, Sumo Logic offers customers the only cloud-native real-time machine data analytics service to deliver continuous intelligence for modern applications.

Customers

Customers Sumo Logic has more than 2,000 customers of all sizes spanning across nearly every industry, including: AirBnB, Alaska Airlines, Anheuser Busch, F5, Hearst, Hudl, Levi's, Medidata, Pitney Bowes, The Pokemon Co. International, Sauce Labs, Samsung SmartThings, SPS Commerce, Thomson Reuters, Toyota, Twitter, USA TODAY NETWORK, Zuora and more.

Industry recognition

Named Top 50 Best Places to Work in Tech in 2019, Fortune Magazine
One of the Top 100 Career Launching Companies by Wealthfront for 4 years in a row
Named Forbes' Next Billion Dollar Startup in 2016
Best Cloud Computing Companies And CEOs To Work For
Forbes, 2016 - 20 Coolest Cloud Security Vendors 2016 by CRN Magazine

What technologies do we use?

Sumo Logic runs entirely in AWS on a backend built in Scala using a mix of custom and open-source JVM technologies. Our frontend team works with React, TypeScript, and D3, and collaborates closely with interaction and user experience designers to help build the most intuitive and useful tool possible.



We're hiring!

We are hiring across the board, both interns and full-time positions for 2020. Apply at www.sumologic.com/company/careers or email your resume to Kat Creamer, University Recruiter / Programs Manager at kat@sumologic.com.

Engineering Teams

Collection Team

Responsible for the collection of 150TB of log data and 12B metric datapoints per day from over 250,000 installed agents, multiple cloud-to-cloud integrations, and HTTP and TCP push mechanisms, all with low latency and high reliability.

Core Platform Team

Responsible for all feature work, especially non-data related core features, APIs, and libraries for the platform and front-end. Possible projects include developing our platform frameworks used by other teams and our customers to build functionalities, new security capabilities, overhauling the way our users collaborate and share content, or improving user experience across the board.

Reporting

Responsible for one of the most critical parts of our product and user-facing features: Dashboards. One key component powering many of these features is our streaming MapReduce system (ala Storm). It handles TBs of streaming data per day with latency in the seconds. Possible projects here include making the backend systems more scalable and performant as well as user-facing projects that improve the user experience.

Infrastructure

Implements many services and tools used by engineers across the company including queueing systems based on Kafka and HornetQ, partitioning using Zookeeper, deployment machinery on top of AWS, monitoring tools and alerts, automated system recovery tools, automated cluster scaling tools, etc. Possible projects here include building out the next generation of the above toolset or new tools that can improve reliability/scalability across Sumo engineering.

Metrics Backend

Sumo Logic recently released the industry's first Unified Logs and Metrics (ULM) platform allowing users to capture and analyze both log event data and time-series metrics in one place. This team is responsible for the core backend components related to time-series metrics data, including storage, indexing, querying, and analysis.

Security Analytics

Creating a Cloud SIEM for modern applications. New security processes need to bring DevSecOps and SOC teams closer together with more information sharing and faster response times. The first SIEM built to scale to meet these challenges.

Advanced Analytics/ML

Delivers differentiated product capabilities that provide breakthrough customer value by applying machine learning and data mining techniques to the unique data and computational resources of the Sumo Logic platform. Example responsibilities for this team include curating datasets, running experiments, production software engineering, and building supporting infrastructure such as experimentation frameworks and data pipelines.

Frontend (UI)

As a Web UI Engineer at Sumo Logic, you'll specialize in building elegant, responsive web applications using the latest front-end technologies including React, Redux, TypeScript, ES6, SASS, Webpack, Jest. You will be an integral part of our UX team, working closely with our designers to create an intuitive UI that will bring data to life and make it simple for users to interact with, visualize and analyze their own data.



TITLE: Backend Software Engineering Intern

Want to empower digital business through real-time analytics delivered as a service? Passionate about putting the power of machine data analytics in the hands of everyone by unifying all data types, enabling universal access and leveraging cloud economics – all this from a single, unified platform delivered and consumed as a service? Come talk with us!

As a **Backend Software Engineering Intern**, you will be responsible for designing and developing a piece of our complex event-based processing platform and data infrastructure for our enterprise security service. You will be working on a highly distributed, fault tolerant, multi-tenant framework that includes leading-edge components related to storage, messaging, search, and analytics.

The **Backend** team is broken down into six (6) sub-teams:

- Collection
- Core Platform
- Reporting
- Infrastructure
- Metrics Backend
- Security Engineering

What you'll be working on:

- Design and develop components of the multi-tenant event-based processing platform
- Design and develop data pipeline and systems for management and manipulation of very large data sets
- Design and implement extremely high-volume, fault-tolerant, scalable backend systems
- Analyze and improve efficiency, scalability, and reliability of data processing components.
- Code primarily in Scala

Your experience and skills should include:

- Pursuing a BS, MS, or PhD in Computer Science
- Entering junior year of B.S or graduating in fall 2020 or spring 2021
- Previous internship or full-time experience as a Software Engineer
- Java / Scala programming preferred
- Interested in Enterprise Class Software, Data Analytics, Data Mining, Machine Learning, AI, and Algorithms is a strong plus

Still interested? We'd love to hear from you! [Apply](#) now and learn more about our [purpose!](#)

About Us: <https://app.box.com/v/SLGeneralDossier>

· **What we do:**

We are a cloud-native SaaS machine data analytics platform, solving complex monitoring problems for DevOps, SecOps and ITops teams. Customers love our product because it allows them to easily monitor and optimize their mission critical, large scale applications.

· **Mission:**

Democratize machine data analytics through the Sumo Logic platform, bringing real-time data insights securely through the cloud.

· **Massive Scale:**

Our microservices architecture in AWS ingests hundreds of terabytes daily across many geographic regions. Millions of queries a day analyze hundreds of petabytes of data.

· **Funding and Growth:**

We have raised \$345 million in funding to date, with the most recent round being May 2019. Investors include Battery Ventures, Greylock Partners, Sutter Hill Ventures, Accel Partners, Sequoia Capital, Sapphire Ventures, IVP, and DFJ Growth. Our recurring revenue and customer base are growing steadily. We serve over 2,000 customers across the globe including AirBnB, Alaska Airlines, Anheuser Busch, Hootsuite, Hearst, Hudl, Major League Baseball, Marriott, Medidata, Sauce Labs, Samsung SmartThings, SPS Commerce, Twitter, Telstra, Toyota, Zuora and more.



xylem
Let's Solve Water



xylem.com/en-us/careers

#LetsSolveWater: Join our global team, working on projects and initiatives to create a more water-secure world for the future. Xylem (NYSE: XYL) is a leading global water technology company committed to developing innovative technology solutions to solve the world's water challenges. Our products and services move, treat, analyze, monitor, and return water to the environment in public utility, industrial, residential, and commercial building services settings. We are an S&P 500 company with more than 17,000 employees and sales in more than 150 countries.

STUDENTS: Visit xylem.com/en-us/careers to learn about undergraduate internships (U.S. and Canadian citizens and permanent residents only). By focusing on in-depth projects, interns gain the ability to showcase their work and advance the possibility of joining Xylem after they graduate. Introduce yourself at UniversityRecruiting@xylem.com.

EVERYDAY OPPORTUNITIES: Advance your career with teams that endorse innovation, collaboration and creativity. Our internal networking groups also provide a forum for discussion, diversity and events. Learn more at xylem.com/careers.

SUSTAINABILITY AT XYLEM: We are minimizing our environmental footprint and partnering with suppliers, humanitarian organizations and leaders that share our values. Check out our Sustainability Report and initiatives at: xylem.com/sustainability.

@XylemInc #LetsSolveWater @XylemWatermark #MakeYourWatermark

Appendix H. MIT Campus Map

<http://whereis.mit.edu>

October 29, 2019

6-A Business Meeting/Student Company Networking
Grier Room -34-401
8:30 am - 10:00am

October 29, 2019

Company Interviews
Grier Room 34-401
10:30 am - 5 pm

October 30, 2019

Company Interviews
Grier Room 34-401
9 am - 5 pm

