

# Timothy Liu

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## Education

**University of California, Berkeley**, August 2016 – December 2019 (Projected)

B.A. Candidate in Computer Science, Minor in Electrical Engineering

- **CS Coursework:** Data Structures, Algorithms, Operating Systems, Computer Architecture, Artificial Intelligence, Databases (In progress), Computer Security (In Progress), Discrete Math, Linear Algebra
- **EE Coursework:** Signals and Systems, Probability & Random Processes (In Progress)
- **Major GPA:** 3.7/4.0

## Experience

**Shell TechWorks, Software Engineering Intern**, Cambridge, MA, May 2018 – August 2018

- Worked as a full stack developer on the Plug and Abandonment (PandA) project to find the cheapest cost to decommission deep-sea oil wells. PandA saved Shell \$150 million in 2018.
- Implemented ability for well engineers to import configurations from previous runs of the app, export data as spreadsheets for audits and future calculations, and view the current and total liabilities of Shell.
- Fixed critical bugs in back end and front end code which helped secure additional funding for the project.
- Wrote the first end-to-end tests for PandA.
- Technologies/Languages used: C# (.NET), JavaScript (React, Redux, WebDriverIO, jest)

**The Ubiquitous Swarm Lab, Undergraduate AI Researcher**, Berkeley, CA, May 2017 – August 2017

- Implemented a corner detection algorithm used to help a drone determine its movement and orientation.
- Improved the UI and added customizable settings to the lab's core image tracking algorithm.
- All projects were done under the supervision of Professor Kristofer Pister.
- Technologies/Languages used: Python (OpenCV, NumPy), MATLAB

## Organizations

**Reader, UC Berkeley EECS Department**, Berkeley, CA, August 2018 – Present

- Graded homework assignments and assisted TAs in office hours for the upper division algorithms class at Berkeley.

**Computer Science Mentors, Junior Mentor**, Berkeley, CA, January 2018 – Present

- Led small group tutoring sessions for the Data Structures and introductory EE courses at Berkeley.

**UAVs@Berkeley, Project Leader**, Berkeley, CA, August 2017 – Present

- Implemented computer vision software for a Parrot Bebop and a custom drink delivery drone.
- Technologies/Languages used: Python (OpenCV)
- <https://github.com/uavs-at-berkeley>

**Launchpad, Project Developer**, Berkeley, CA, August 2017 – Present

- Worked on various machine learning projects, such as music generation and multi-objective optimization.
- Technologies/Languages used: Python (TensorFlow)
- <https://github.com/callaunchpad>

**Tutor, UC Berkeley EECS Department**, Berkeley, CA, January 2018 – May 2018

- Led one-on-one tutoring sessions for the Intro to Teaching CS class.
- Commended by the Director of Undergraduate Instruction for outstanding performance.

## Projects

**Eigen** (<https://github.com/tbliu/Eigen>)

- Eigen is a CLI that can perform a wide variety of linear algebra and modular arithmetic operations.

**Selected Class Projects** (*Private repositories*)

- OS: Implemented thread scheduling, system calls, and file system for the Pintos operating system, Data Structures: Implemented a relational database management system and Google Maps for Berkeley

## Skills

- Proficient in: Python (OpenCV, NumPy), Git, Vim, C, Java
- Experience with: JavaScript (React, Redux, WebDriverIO, jest), C# (.NET), HTML/CSS, MATLAB