

# MICHAEL LEONG

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## EDUCATION

### University of Southern California

B.S. Computer Engineering & Computer Science

*Expected May 2028*

*Los Angeles, CA*

## EXPERIENCE

### Lawrence Berkeley National Laboratory

*Student Assistant*

June 2023 - Present

*Berkeley, CA*

- Lead team in the Grid Integration Group to develop a web-based tool for planning optimal electric vehicle charging stations for both fleet and personally owned vehicles in the context of transportation electrification.
- Set-up MongoDB, Express, React, Node (MERN) web stack and GitHub Actions automated tests.
- Ported existing electric vehicle data to MongoDB and implemented REST API to communicate between server and client.

### FRC 604 Quixilver Robotics

*VP of Engineering*

September 2021 - June 2024

*San Jose, CA*

- Lead team in all branches of technical robot design. Responsible for training new members and contributing to robot development.
- Developed time-optimal trajectory optimization software utilizing non-linear optimization algorithms using our robot's kinodynamic constraints.
- Developed particle filter robot localization software using both odometry and computer vision utilizing PhotonVision/OpenCV to detect AprilTag targets.

## PROJECTS

### VelocityDraft

*GitHub Link: <https://github.com/shuklabhay/velocity-draft>*

- Created college essay writing scheduler based on writing speed, deadline, and number of necessary revisions. Created with Firebase, Express, React, Node (FERN) web stack.
- Received 3rd place submission while competing against 120+ people.

### Canvas Final Grade Calculator

*GitHub Link: <https://github.com/leongmichael/canvas-final-grade-calculator>*

- Web extension that automatically fetches Canvas class grade and calculates the required score on your final exam to receive your desired grade.
- 150+ users, 5.0 stars on Chrome Web Store.

## SKILLS

### Programming Languages

Java, JavaScript, Python, TypeScript

### Libraries + Frameworks

Flask, Firebase, MongoDB, Express, React, Node, React-Native, Matplotlib, Numpy, Pandas

### Tools

Git, Onshape, Fusion360

## HONORS & AWARDS

- |  |      |
|--|------|
| • SVEC Education Scholarship Honorable Mention | 2024 |
| • California Seal of Biliteracy for Chinese    | 2024 |
| • FIRST Dean's List Semi-Finalist              | 2023 |
| • OneHacks III 3rd place submission            | 2023 |