

# MICHAEL LEONG

mtleong@usc.edu | [linkedin.com/in/m-leong](https://www.linkedin.com/in/m-leong) | [github.com/leongmichael](https://github.com/leongmichael) | [leongmichael.github.io](https://leongmichael.github.io)

## EDUCATION

**University of Southern California**  
B.S. Electrical & Computer Engineering

*Los Angeles, CA*

## EXPERIENCE

**Lawrence Berkeley National Laboratory**  
*Student Assistant*

June 2023 - Present  
*Berkeley, CA*

- Led development of EV-CIPT (Electrical Vehicle Charging Infrastructure Planning Tool): full-stack web application that can estimate the requirements for charging infrastructure and the related electrical demands.
- Implemented control logic for fleet charging management, prioritizing vehicles based on state of charge (SoC), stay duration, and station availability.
- Utilized Express, React, Node webstack and GitHub Actions automated tests. Implemented REST API to communicate between client and Python server-side logic and simulations.
- Skills: React.js, Node.js, Express.js, REST API, NumPy, Pandas, GitHub Actions

**FRC 604 Quixilver Robotics**  
*VP of Engineering*

September 2021 - June 2024  
*San Jose, CA*

- Led 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.
- Skills: OpenCV, CasADi, Matplotlib, NumPy

## PROJECTS

### VelocityDraft

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

- Flexible application essay writing scheduler. Third place in Onehacks III Hackathon against 120+ competitors.
- Leverages user writing abilities and essay deadlines to algorithmically determine best order of essay writing.
- Skills: Express.ts, React.ts, Node.js

### Canvas Final Grade Calculator

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

- Web extension that fetches your Canvas grade and calculates the final exam score needed for your desired grade.
- 600+ users, 5.0 stars on Chrome Web Store.
- Skills: React.ts, Node.js

## SKILLS

### Programming Languages

C++, Java, JavaScript, Python, TypeScript

### Libraries + Frameworks

Flask, Firebase, MongoDB, Express, React, Node, Matplotlib, NumPy, Pandas, SQL, TensorFlow

### Tools

Git, GitHub Actions, Onshape, Fusion360

### Licenses + Certifications

DeepLearning.AI Machine Learning Specialization

## HONORS & AWARDS

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