

MICHAEL LEONG

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EDUCATION

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

Los Angeles, CA

EXPERIENCE

Lawrence Berkeley National Laboratory
Student Assistant

June 2023 - December 2024
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.
- 800+ downloads on the Chrome Web Store.
- Skills: React.ts, Node.js

SKILLS

Programming Languages

C++, Java, JavaScript, Python, TypeScript, MATLAB, SQL

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

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