

SHANAL (DRE) MAHAARACHCHI

drehanmaha@berkeley.edu | [drehanm.github.io](https://github.com/drehanm) | github.com/drehanm

EDUCATION

UNIVERSITY OF CALIFORNIA, BERKELEY.

Berkeley, CA

B.S. Electrical Engineering & Computer Sciences (GPA: 3.55)

Expected May 2020

Current Courses: Algorithms, Databases, Artificial Intelligence, Intro to Data Science, Operating Systems, Optimization Models

Completed Courses: Data Structures, Computer Architecture, Circuits/Signals/Controls, Applied Linear Algebra, Discrete Math and Probability, Program Structure

WORK EXPERIENCE

JET PROPULSION LAB – NASA

Pasadena, CA

Software Engineering Intern

June – August 2018

- Decreased turnaround for device analysis by 450% by creating, designing, and implementing IRIS.
- IRIS is an interactive infrared device analytics app build with Python/Flask/Chart.js/HTML/CSS.
- IRIS is now the default data analysis/visualization program that NASA's Infrared Photonics Group uses.

DR. ROBERT RHEW'S LAB – UC BERKELEY.

Berkeley, CA

Research Assistant

December 2017 – Present

- Created a data mining app with Pandas to analyze climate trends hidden in NorCal climate data.
- Building a Python/Django REST API and web app to publish climate data from Central Sierra Snow Lab.
- Refactoring and optimizing data analysis scripts on lab's Linux systems.

EECS DEPARTMENT – UC BERKELEY

Berkeley, CA

Lab Teaching Assistant

December 2017 – Present

- Administering lab sections of 30+ students for an undergraduate electrical engineering course.
- Assisting students with EE fundamentals, including but not limited to: Circuits, PCA, SVD, DFT.

COMNETS – UNIVERSITÄT BREMEN.

Bremen, Germany

Software Engineering Intern

May – July 2017

- Designed a room occupancy monitor from scratch using an Arduino and infrared sensors.
- Connected the device to the local network with Python sockets and an ESP8266 WiFi attachment.

SELECTED PROJECTS

TIMESHEET | FLASK, SQLITE3, REACT

IN PROGRESS

- A Flask RESTful web app designed to track and organize time spent on tasks.

ESPRESSO | JAVA

AUGUST 2018

- A database system that can parse SQL commands to create/read/update/delete database objects.

LYREQ | PYTHON

JULY 2018

- A web scraper that creates an image depicting a song's lyrical repetitiveness.

GITLET | JAVA

DECEMBER 2017

- A lite version of Git version control, complete with the ability to commit/branch/checkout/merge.

SKILLS

Languages: Python, Java, SQL, C, Javascript, HTML/CSS, LaTeX, Shell, Assembly

Web: Django, Flask, NodeJS, AWS, REST APIs, ReactJS, Requests

Data Science: Pandas, Numpy, Scipy, Matplotlib, TensorFlow, Scikit-Learn

Databases: PostgreSQL, MySQL, SQLite3

Tools: Docker, Git, Raspberry Pi, Arduino, IntelliJ, VSCode

ORGANIZATIONS

iSTEM Without Borders – Director

Chi Psi Fraternity – Scholarship Chair