

Kai-Wen Cheng

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EDUCATION

University of California, San Diego

Bachelor of Science in Electrical Engineering | *Bachelor of Arts in Economics*

La Jolla, CA

Sept 2019 - Present

- GPA: 3.71
- Relevant Coursework:
 - CS Related: Data Structures, Java, C Programming, Statistics, Data Analytics, Algorithm, Machine Learning
 - EE Related: Digital IC Design, Electronics Circuit and System, Analog Design, Linear Control Theory

SKILLS

- *Programming Language*: Java, C, bash scripting, MATLAB, Python, JavaScript/CSS/HTML
- *Languages*: Chinese, English, Spanish

PROFESSIONAL EXPERIENCE

UC San Diego Jacob's School of Engineering

Data Analytics Research Intern

La Jolla, CA

Feb 2022 – Present

- Research under professor Yuanyuan Shi to conduct data analytics of carbon emission data from the California grid.
- Organize and visualized more than 100,000 entries of grid marginal emission data into heatmaps using pandas and numpy.
- Help develop and simulate a carbon minimizing strategy for electric vehicles using carbon emission data and charging data.

UC San Diego Jacob's School of Engineering

Power Electronics Research Intern

La Jolla, CA

Apr 2022 – Present

- Research under professor Hanh-Phuc Le to conduct simulation and hardware implementation for DC-DC power converter.
- Simulate a close-loop synchronous buck converter that steps down from 12V to 3V under ideal and non-ideal implementations.
- Implement and measure the designed buck converter on PCB to validate simulation results with empirical findings.

WIFIRE Lab at San Diego Supercomputer Center

Research Assistant

La Jolla, CA

Jun 2021 – Present

- Collaborated with all fire departments throughout California to provide wildfire alerts and models using the Firemap GIS tool.
- Established a 50+ pages document detailing how to use tools developed by the lab and assisted trainings new members.
- Analyzed and compiled wildfire alerts and models to predict better understand fire behavior under the given condition.
- Assisted in the investigation of wildfire point of ignition through local radio channel as well as twitter live feed.

SIDE PROJECT

Public Transportation in New York City – A Demographic

GIS and Data Analytics Project

La Jolla, CA

Summer 2021

- Visualized transportation access with income, ethnicity, population, and type of housing to evaluate transportation accessibility.
- Analyzed the Census and the American Community Survey (ACS) data to fetch information regarding accessibility measures.
- Cleaned the data using python, created visualization using ArcGIS, and used SQL to manage large amounts of data.
- Project Link: <https://tinyurl.com/nycTransportationGIS>

Splitting Bills at Restaurants

Python Scripting Project

La Jolla, CA

- Wrote a program that scans a bill in txt file to assist the bill splitting situation during gatherings with friends and family.
- Utilized GitHub and Git for version control, PyCharm IDE as main coding platform and Python 3.8 as the interpreter.
- Project Link: https://github.com/kaicheng0824/splitting_bill

LEADERSHIP EXPERIENCE

Electrical and Computer Engineering Undergraduate Student Council

Professional Chair

La Jolla, CA

Jun 2022 – Present

- Host and plan professional development events that facilitates undergraduate students in networking skills and internship search.
- Invite professional speakers to visit UCSD and give technical talks to bridge the gap between academia and industry.

Muir College Council

Vice President of Administrative Affairs

La Jolla, CA

Aug 2019 – May 2020

- Co-hosted weekly meetings to discuss school-wide affairs and passed legislation to promote student aid and council activities.
- Acted as the point of contact between students and the college administration to further legislation that would benefit students.