

DARREN ZHENG

SWE Intern

CONTACT

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EDUCATION

Princeton University

Graduating June 2023

GPA: 3.65/4.0

B.S.E. Computer Science Minor in
Statistics and Machine Learning

Activities: HackPrinceton,
Powerlifting Club (Captain)
Neuroscience Network (Research
Chair)

SKILLS

Java	● ● ● ● ● ●
Python	● ● ● ● ● ●
C	● ● ● ● ● ○
HTML/CSS	● ● ● ● ● ○
JavaScript	● ● ● ● ● ●
SQL	● ● ● ● ● ○
R	● ● ● ● ● ●
Flask	● ● ● ● ● ○
Git	● ● ● ● ● ●

Work Experience

Puerto Rico Science Trust / Computer Science Intern

JUN 2021 - AUG 2021, REMOTE

- With a partner, I prototyped a dashboard, using HTML, CSS, and JavaScript, to effectively display real-time renewable energy information to the Puerto Rico public.
- I used Leaflet, a Javascript library, to build interactive map prototypes to show solar energy production across Puerto Rico.
- I initiated meetings with organizations such as the Rocky Mountain Institute and Clinton Foundation to form collaborations for renewable energy data collection and display.

Princeton Computer Science / COS126 Teaching Assistant

SEP 2020 - JUN 2021, PRINCETON, NJ

- I helped debug students' assignments with an average of four students per hour and answered students' questions about general computer science topics.

CollegeBound Review / SAT Tutor

FEB 2021 - PRESENT, REMOTE

- I provide private 1-on-1 SAT remote tutoring and help improve students' scores on the SAT test by an average of 200-300 points.

Significant Projects

Social and Political Factors of Climate Change

Python (Scikit-learn)

In a team of 3, I used data analysis tools imported from scikit-learn, such as data imputation and feature selection, to build machine learning models to examine how climate change opinion relates with political party affiliation and to predict climate change opinion from greenhouse gas emissions and temperature. I found that random forest performs the best to predict climate change opinion, while linear regression performs the best to predict political party affiliation.

TigerFit, a workout tracker web application

Python, JavaScript, jQuery, Flask, Heroku, PostgreSQL, Git

In a team of 4, I developed a web application that provides users with an efficient way to track their fitness progress by implementing workout and body-weight tracking, data visualization, weight recommendations, and other features.

Lifting Form Critique (Current)

Python (OpenCV, AlphaPose, Scikit-Learn)

The goal of this independent work project is to use keypoint detection to classify form in dynamic weight-lifting exercises. After creating a dataset from scratch by recording lifters performing the weighted back squat exercise, I used AlphaPose, an open-source computer vision library for multi-person 2-D pose detection, to generate key points on over 8,000 image frames. Using neural networks, I trained various models and evaluated their effectiveness in classifying squat form.