Nathan Chan
njchan@ucdavis.edu nathanjchan.com github.com/nathanjchan (650) 430-3780 Based in SF Bay Area

Education

Bachelor of Science, Double Major in Computer Science & Statistics — Graduating June 2021
University of California, Davis — GPA 3.8

Experience

Data Scientist - UC Davis Center for Mind and Brain *May 2019 to Sep 2020*

- Created a massive dataset for a grant-funded research project on Mexican families by web scraping ozone and PM2.5 data, merging it with 675 participants' data, and combining it with 10 public datasets for socioeconomic factors (Python: numpy, pandas, beautifulsoup).
- Created visualizations on how factors changed over geography and time (Python: seaborn, matplotlib).
- Solved data wrangling problems (R: tidyverse) to parse, clean, and store hormone, heartbeat, and survey data for a human development research lab with data wrangling and collaborating with researchers.
- Built dashboard for researchers to visualize how variables interacted (R: ggplot, R Shiny).

Research Assistant (in data analysis) - Asian American Center on Disparities Research *Sep 2017 to June 2018*

- Found differences in face concern ("saving face") between Asian and White Americans.
- Performed multivariate regression and analysis of variance in SPSS on data from 425 participants. Investigated reactions to negative emotion by interviewing 30 participants and presenting a poster at a research conference.

Math Instructor - Mathnasium Learning Center *Feb 2017 to Sep 2017*

- Taught math one-on-one to over 60 students K-12 from diverse backgrounds to improve math grades in school.

Projects

Ice on Mars - Web App (website) *Dec 2020 to Present*

- Recently started. Will let users choose coordinates of Mars from a map and a website will display the radar image at that location and whether my machine learning model predicts ice there (Python: Django; HTML).

Finding Ice on Mars From Radar Images - Computer Vision (github) *June 2020 to Sep 2020*

- Discovered that near-surface water ice can be found in radar images of Mars with 87% accuracy.
- Retrieved 23,650 images from a NASA database, performed feature extraction to measure image texture, applied machine learning (R: randomForest, Python: scikit-learn), and created ice maps of Mars (R: ggplot).

Demographics and Credit Score - Neural Networks (paper) *Oct 2020 to Dec 2020*

- Predicted whether a credit applicant will have good or bad credit based on their demographic information.
- Collaborated in a team of 12 to process data (Python: numpy, pandas, scikit-learn), implement a neural network (Python: Tensorflow, Keras), and develop a web app to showcase functionality (Python: Django; HTML).

Finding Drug Resistance in DNA - Machine Learning (paper) *Oct 2020 to Dec 2020*

- Developed a test that takes DNA data and determines whether there are mutations that cause drug resistance.
- Worked in a team of 4 to wrangle DNA data (Python: numpy, pandas) and implement unsupervised clustering algorithms to group certain DNA data together (Python: scikit-learn).

Calories Per Dollar - Android App (github) *March 2020*

- Developed a mobile app to calculate and save calories per dollar for foods (Kotlin: Android Studio).

Check Yourself - Android App (github) *January 2020*

- Developed a mobile app that uses the camera to interpret and solve handwritten math problems.
- Worked in a team of 4 to create the mobile app (Java: Android Studio) that uploads images of math to a server (Google Firebase), which runs a handwriting recognition program (Python, Bash, HTML).

Leadership

Project Lead - Davis Data Science Club *Dec 2020 to Present*

- Recently selected. Will manage data science projects, lead team meetings, and collaborate with other clubs.

Chairman - Judicial Council of Associated Students, UC Davis *Jan 2019 to Present*

- Lead weekly meetings and hearings to discuss and resolve disputes between organization members.
- Found and corrected dozens of inconsistencies in the organization's internal bylaws.
- Communicate between council and external members and manage creation of documents to explain decisions.

Eagle Scout - Boy Scouts of America *May 2016*

- In a school refurbishment project, led teams in planting 20 shrubs. Managed funding, purchasing, and delivery.
- Led a scout patrol in camping excursions, educational activities, and team-building exercises. And singing.

Skills

- Python, R, C/C++, SQL, Kotlin, Java, Bash, Linux, Jupyter notebooks, Android Studio, Git/GitHub, HTML, CSS.
- Algorithm analysis, object-oriented design, data structures, database modeling, machine programming, computer architecture, and web development.
- Machine learning, artificial intelligence, web scraping, visualizations, big data, statistics, linear regression, hypothesis testing, analysis of variance. Linear algebra, combinatorics, optimization.