Barnett Yang

barnettyang@berkeley.edu | (626)365-2809
linkedin.com/in/barnettyang | barnettyang.herokuapp.com | github.com/adamzuyang

EDUCATION

UNIVERSITY OF CALIFORNIA: BERKELEY

BA in Computer Science and Applied Mathematics
May 2024 | Berkeley, CA
Cum. GPA: 4.0 / 4.0

Relevant Coursework:
Data Structures and Algorithms
Machine Structures
Discrete Mathematics and Probability Theory
Multivariable Calculus
Linear Algebra
Differential Equations
Real Analysis
Abstract Algebra

SOUTH PASADENA HS

June 2020 | South Pasadena, CA
Cum. GPA: 4.0 / 4.0
National Merit Finalist
National AP Scholar with Distinction
$10,000 Oneonta Scholarship Recipient

SKILLS

PROGRAMMING LANGUAGES

Python • Java • JavaScript • C • HTML
CSS • LaTeX • SQL • RISC-V

LIBRARIES AND FRAMEWORKS

Data Analysis
Pandas • MatPlotLib/Seaborn • NumPy
Sklearn • Tensorflow • Keras
Web Development
Node.js • Bootstrap • Express • EJS • React
MongoDB/Mongoose • Flask • Django

SOFTWARE ENGINEERING

Quality Assurance • Github and Git Workflow
Lead Generation • Web Research
APIs and APMs

SOFT SKILLS

Mandarin Chinese • Communication
Initiative • Leadership • Determination
Critical and Quantitative Thinking

PUBLICATIONS

Yang B. Impacts of the COVID-19 Pandemic on the American Socioeconomic Academic Achievement Gap Through the Perspective of Race, Income, Unemployment, and Poverty. *Towards Data Science*. 2020.

AWARDS

Twice American Invitational Mathematics Examination Qualifier (2019)
National Chemistry Olympiad Qualifier (2018)

EXPERIENCE

BERKELEY DATAGOOD | Data Analyst and Software Engineer

Feb 2021 – Present | Berkeley, CA

- Currently working with the SF-based nonprofit ViviendasLeón to alleviate poverty in Nicaragua and Guatemala by analyzing data from rural family farms.
- Compiling machine learning and multiclass models to predict optimal crops based on users' conditions and presenting the model using a web API.

PHOTON COMMERCE | Software Engineer Intern

Nov 2020 - Jan 2021 | San Francisco (Remote), CA

- Developed and deployed Python web applications with API and APM integrations (New Relic, Google APIs, etc.). Documented web APIs. Performed quality assurance.
- Developed PDF parsing algorithms using regular expressions and OCR software.

BERKELEY URSATECH | Data Analyst

Sep 2020 – Feb 2021 | Berkeley, CA

- Investigated the socioeconomic factors influencing student success and development and the possible effects of the COVID-19 pandemic on the racial achievement gap.
- Visualized, modeled, and analyzed educational, social, and economic data from government studies and datasets using data analysis libraries in Python.

BERKELEY IEEE | Full-Stack Developer

Sep 2020 – Jan 2021 | Berkeley, CA

- Developed a web drawing game inspired by Skribbl.io with 50-100 players so far.
- Created the design document, configured debugging directory settings, developed overall Javascript functionalities and websockets with Node.js, integrated and engineered backend systems, and created the chat and drawing board.

ANAVIA JEWELRY AND GIFTS | Software Engineer Intern

Jul 2019 – Dec 2020 | City of Industry, CA

- Assisted in lead generation and web research by creating software to scrape meaningful web data and automate conversion to Microsoft Excel.
- Generated a cumulative total of 100,000+ line items from publicly available online directories, improving advertising efficiency and data accuracy.

PROFESSIONAL TUTOR | Self-Employed

Jan 2017 – Present

- Tutored 50+ middle and high school students in mathematics and chemistry. Improved student performance at school by up to 2 letter grades.
- Provided free weekly sections in computer science and academic workshops for students at UC Berkeley as a UC Berkeley Computer Science Mentors junior mentor.

PROJECTS

URSATECH

Data analysis project analyzing the links between the economic effects and racial disparities of the COVID-19 pandemic, student socioeconomic status, and the racial achievement gap. Analyses and visualizations were done in Python and the findings of the study were compiled into a research report and published on *Towards Data Science*.

PATHFINDING AND SORTING VISUALIZERS

Online pathfinding and sorting visualizers created using Node.js, Bootstrap, and Javascript. The pathfinding visualizer features Dijkstra's, A*, bidirectional, greedy, BFS, and DFS algorithms. The visualizer is interactive, allowing the user to add walls and weighted nodes and utilize a random maze generator. The sorting visualizer features six comparison-based sorts (e.g. quicksort, mergesort, etc.) and two radix sorts (MSD and LSD radix sorts).

BEARMAPS

An interactive web mapping application of Berkeley, California capable of giving and plotting detailed routing instructions. The project was developed with an emphasis on data structures and algorithms. Tries are used to autocomplete search queries, A* is used for direction routing, and rastering is used to generate the map interface.