Barnett Yang

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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 • Flask • Django • Heroku

SOFTWARE ENGINEERING
API and APM design • Quality Assurance
Lead Generation • Github and Git Workflow
Web Research

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
National Chemistry Olympiad Qualifier
National Merit Finalist

EXPERIENCE

SANDIA NATIONAL LABS | Math Analysis, Decision Science Intern
May 2021 - Present | Albuquerque, NM

BERKELEY PLEXTECH | Project Manager
Feb 2021 - Present | Berkeley, CA

- Managed the creation of back-end routes, set up MERN development frameworks and database models, and led project ideation for the AI-powered education platform ScholarHub's chat and Gather features with planned use at major institutions.
- Organized the API documentation and project specifications. Oversaw code reviews and merges to cleanly integrate system-wide software into the existing codebase.

BERKELEY DATAGOOD | Data Analyst
Feb 2021 – Present | Berkeley, CA

- Executed data analysis for the non-profit ViviendasLeon. Developed and maintained client relationships by translating business requirements to data science solutions.
- Built machine learning classifiers and scoring algorithms to predict optimal crop recommendations, thereby informing rural Central American farming practices and volunteer data learnings through a Heroku API and Google Data Studio dashboards.

PHOTON COMMERCE | Software Engineer Intern
Nov 2020 - Jan 2021 | San Francisco (Remote), CA

- Deployed Python web applications with API integrations. Used regular expressions and OCR software to improve the accuracy of existing invoice parsing algorithms.
- Documented web APIs and performed quality assurance.

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

- Created web scraping pipelines to automate lead generation and information gathering and developed algorithms to verify the correctness of company SKUs and invoices, thus removing the previous manual workflow and informing marketing strategies.

PROJECTS

PATHFINDING AND SORTING VISUALIZERS
Online pathfinding and sorting visualizers created using Node.js. The pathfinding visualizer features Dijkstra's, A*, bidirectional, greedy, BFS, and DFS algorithms. The visualizer is interactive, allowing the user to add patterns of 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).

URSATECH
A data analysis project done with UC Berkeley UrsaTech analyzing the links between the economic effects and racial disparities of the COVID-19 pandemic, student socioeconomic status, and the achievement gap. Analyses, visualizations, and modeling of Bureau of Labor Statistics and High School Longitudinal Study data were performed in Python (e.g. Matplotlib, Pandas, etc.). The findings of the study were compiled into a research report and published on *Towards Data Science* with over 1500 views so far.

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.