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

2023 | Berkeley, CA
Cumulative GPA: 4.0 / 4.0

Relevant Coursework:

- Data Structures and Algorithms
- Machine Structures
- Efficient Algorithms and Intractable Problems
- Artificial Intelligence
- Foundations of Data Science
- Discrete Mathematics and Probability Theory
- Multivariable Calculus
- Linear Algebra
- Differential Equations

SKILLS

PROGRMMING LANGUAGES

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

DATA SCIENCE

Pandas, Matplotlib/Seaborn, NumPy, Scikit-learn, Bayes Server, Tensorflow, Jupyter Notebook

WEB DEVELOPMENT

Node.js, Bootstrap, Express, EJS, React, MongoDB, Flask, Heroku

SOFTWARE ENGINEERING

Machine Learning and Data Analysis, API Design and Development, Quality Assurance, Git/Github/Gitlab

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 Exam Qualifier
- National Chemistry Olympiad Qualifier
- National Merit Finalist

PROFESSIONAL EXPERIENCE

SANDIA NATIONAL LABORATORIES | Albuquerque, NM
Math Analysis and Decision Science R&D Intern | May 2021 – Present

- Constructed a Java to Python API interface to streamline Bayesian network (BN) creation and testing pipelines, dramatically reducing the prior manual workflow and accelerating Bayesian network development to detect cybersecurity intrusions.
- Investigated novel algorithmic methods in feature selection, variable discretization, and BN training using supervised and unsupervised machine learning techniques, improving robustness metrics by up to 10% on imbalanced datasets.

UC BERKELEY PLEXTECH | Berkeley, CA
ScholarHub Project Manager | Feb 2021 – Present

- Managed the creation of back-end routes, set up MERN development frameworks and database models, and led project ideation for ScholarHub Gather to create a sustainable online education platform API currently being piloted at UC Berkeley.
- Organized API documentation and project specifications. Oversaw code reviews and merges to cleanly integrate system-wide software into the existing codebase.

UC BERKELEY DATAGOOD | Berkeley, CA
ViviendasLeon Data Analyst | Feb 2021 – May 2021

- Developed and maintained non-profit ViviendasLeon 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 Heroku and Google Data Studio dashboards.

PHOTON COMMERCE | San Francisco, CA
Software Engineer Intern | Nov 2020 – Jan 2021

- Used regular expressions and OCR software to improve the accuracy of existing invoice parsing algorithms, reducing the need for human intervention.
- Deployed Python web applications with API and APM integrations. Documented company web APIs and performed quality assurance.

ANAVIA JEWELRY AND GIFTS | City of Industry, CA
Software Engineer Intern | Jul 2019 – Dec 2020

- Created web scraping pipelines to automate company dataset lead generation.
- 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 | Algorithms

User-interactive Node.js visualizer for Dijkstra's, A*, and bidirectional pathfinding algorithms and comparison and radix sorting algorithms. The pathfinder includes a recursive division maze generator and lets the user add wall and weighted nodes.

BEARMAPS | Data Structures and Algorithms

Interactive web mapping application of Berkeley, CA capable of plotting detailed routing directions based on graph theory concepts. Tries are used to autocomplete search queries, A* for direction routing, and rasterization to generate the map UI.

URSATECH | Data Analysis

Data analysis study analyzing links between the economic effects of the COVID-19 pandemic, student socioeconomic status, and the racial achievement gap using BLS and HSLS data. The findings were compiled into a research report and published on *Towards Data Science* Editors' Picks with over 1600 views.