

# Kavan Mehrizi

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## EDUCATION

### University of California, Berkeley – Berkeley, CA

Bachelor of Science, Electrical Engineering and Computer Sciences | Cumulative GPA: 3.4 December 2024 (Expected)

- **Selected Coursework:** Structure & Interpretation of Computer Programs, Circuits & Linear Algebra I & II, Foundations of Data Science, Data Structures & Algorithms, Principles & Techniques of Data Science, Discrete Mathematics & Probability Theory, Human-Computer Interaction, Database Systems. *In Progress:* Computer Security, Large Language Models, Decentralized Finance.
- **Activities and Memberships:** Vice President & Co-Founder of EECS Transfers @ Berkeley Club, Member of Berkeley IEEE Branch, Member of Hispanic Engineers and Scientists Society, Member of Puente at Berkeley, Student Member of IEEE Computer Society, Student Member of SHPE, Student Member of SACNAS.

## SKILLS

- **Programming/Scripting Languages:** Python, Java, C++, SQL, HTML/CSS, Excel, JavaScript, TypeScript, C, R
- **Frameworks and Libraries:** NumPy, Pandas, Matplotlib, PyTorch, Git, MySQL, MongoDB, Arduino, ROS
- **Hobbies:** Avid skier (10 years), film & digital photographer (won award from Google), goalkeeper, 3D printing, automation tinkering, open-source software, IoT, founded Berkeley's only EECS/CS transfer-focused student organization

## EXPERIENCE

### Data Strategy and Analytics Intern

American Express Company – Phoenix, AZ

June – August 2024

- Evaluated and improved the effectiveness of a risk-based limit strategy for business customers exiting the Financial Relief Program (FRP), resulting in a **35% increase** in spend enablement while maintaining a low delinquency rate.
- Leveraged several data tables using **SQL** and **Pandas** to assess customer behavior and risk profiles, leading to a **10% increase** of eligible spending accounts.
- Presented findings and discussed strategy with the Chief Credit & Risk Officer, resulting in the initiation of widescale implementation efforts by various departments and teams.

### Machine Learning Intern

Amazon Science - UCLA – Los Angeles, CA

June – August 2023

- Dialect and accent bias with **Automatic Speech Recognition (ASR) systems**, specifically on **OpenAI Whisper**.
- Performed **question-answering extraction** using Hugging Face **DeBERTa** & Meta **LLaMA-2** with **NumPy** and **PyTorch** while **fine-tuning** Whisper with the Corpus of Regional African American Language (CORAAL) interview dataset.
- **Improved** QA performance by **integrating** LLaMA-2 compared to conventional QA models and saw **4% improvement** with fine-tuning in word error rates (WER) and **greater** F1 score on African American Vernacular English (AAVE).

### Software Engineering Intern

Carnegie Mellon University – Pittsburgh, PA

May – August 2022

- Developed **data mining** scripts using **Pandas** and **SQL** to determine maintainers of over **30k** GitHub most popular repositories utilizing over **5.5 million commits** in multiple **MySQL databases**.
- Redeveloped script to **identify** and **merge** different aliases for contributors used by the same person on GitHub.
- Identified **584k** distinct contributors and **110k** distinct maintainers to be interviewed to understand motivations behind maintaining open-source projects.

### Robotics Development Intern

University of California, Berkeley – Berkeley, CA

June – August 2021

- Developed Python **speech interface** using **Amazon Polly** and **Google Cloud** Speech-to-Text APIs for a robotic guide dog to facilitate direct, vocal **human-robot interaction** allowing for **independence** of guide dog by eliminating the need for a computer to manually send commands into guide dog's existing ROS and C++ infrastructure.
- Authored student paper, **cited by Google DeepMind**, and presented research to **300+** total attendees at multiple symposiums across UC Berkeley.

## PROJECTS

### Word Usage History & Hyponyms Explorer

Java, Data Structures, Data Analysis/Visualization, Datasets

- Implemented backend for a browser-based tool for analyzing history of word usage and frequency in Google's NGram dataset. Built ability to find hyponyms using the WordNet dataset with merging/comparing synonym graphs and graph traversals.

### World Generator

Java, Data Structures, A\*, Binary Space Partition

- Developed a 2D tile-based world exploration game in Java that supported a random world generator using A\* and BSP. Utilized various data structures such as arrays, lists, maps, sets, and stacks to store and manipulate the tiles, rooms, hallways, entities, and paths in the world.

### Shortest Path Navigation

C++, Data Structures, Graphs, Priority Queues

- Built a navigator to find the minimum path between two points via Dijkstra's using graphs and priority queues.