Kevin Cai

kevincai@berkeley.edu
(626) 321-0405
Berkeley, CA
linkedin.com/in/kevinjcai

EDUCATION

University of California, Berkeley — Expected Graduation: May 2023
B.S. Electrical Engineering and Computer Science — *Dean's Honors List, GPA: 3.95*

- **Relevant Coursework**: Data Structures, Structure and Interpretation of Computer Programs, Designing Information Devices and Systems, Efficient Algorithms and Intractable Problems, Discrete Mathematics and Probability Theory

SKILLS

Programming Languages: Python, Java, C, C++, Dart, SQL, MATLAB
Tools: PyTorch, NumPy, Flutter, Google Firestore, Arduino
Technical Skills: Full Stack Development, Mobile Development, Arduino, Circuit Design, Soldering, SolidWorks

EXPERIENCE

Berkley Artificial Intelligence Research (BAIR) Lab — Berkeley, CA
Research Assistant — *July 2021 – Present*

- Designed data pipelines for seamless pulling of video description datasets to feed into machine learning models
- Trained video captioning models to generate audio descriptions, increasing accessibility of videos for the visually impaired

SportVue — Berkeley, CA
Software Engineering Intern — *June 2021 – August 2021*

- Configured mobile app to connect wirelessly to wearable ice hockey device via Bluetooth to retrieve data in real time to decrease instances players look down by 50%, which lowers the risk for head-on collisions and concussions
- Created external database to perform data analytics to determine and predict hockey player skill level
- Designed UI for mobile app and backend framework to push and pull data from database

Caltech Dr. Yuk Yung Lab — Pasadena, CA
Research Assistant — *June 2018 – August 2019*

- Modeled natural convection currents in fluids by utilizing various obstacles with different shapes and orientations as inputs
- Determined computational power and logic gates within convection currents to create database with over 30 simulations
- Produced data using C and converted to video with MATLAB to visualize movement of the convection currents

PROJECTS

Gitlet — Berkeley, CA
Java — *March 2021 – April 2021*

- Designed version control system with efficient backup storage to store directories without saving each file every commit
- Developed method for creating a branch to continue working from previous backup and merge with other branches
- Implemented a history allowing the user to view the previous commits of a given branch

Scheme Interpreter — Berkeley, CA
Python — *August 2020 – December 2020*

- Created a program to translate written Scheme text to an executable computer language
- Considered nuances in the interpreter to perform various functions such as tail-recursion and let functions

Temperature Detector Probe — Los Angeles, CA
C, Arduino — *September 2019 – March 2020*

- Utilized Arduino by connecting it to a thermocouple resistor to quantifiably measure temperature
- Formulated regression models with hundreds of data points to predict unknown temperatures with 95% accuracy

Fingerprint Scanner — San Diego, CA
Python — *July 2019 – August 2019*

- Designed and constructed laser fingerprint scanner with CCD camera sensor to analyze and recognize unique fingerprints
- Implemented Python image processing program to increase contrast of fingerprint scans by utilizing properties of light absorption and reflection to differentiate between ridges and valleys for accurate fingerprint classification