Robert Au

Davis, CA

(916) 838-3094 rbtau@ucdavis.edu www.linkedin.com/in/robert-au-975272198 https://github.com/r6097

EDUCATION

University of California, Davis **August 2019 – June 2023**
Bachelor's of Letters and Science, Computer Science ***GPA: 3.739***

- Dean's Honor List: Winter 2021, Spring 2021

TECHNICAL SKILLS

Languages: Python, R, Ruby, C/C++, JavaScript, HMTL/CSS/JSX
Developer Tools: VS Code, Android Studio, Microsoft Office
Technologies/Frameworks: Linux, Git/GitHub, MongoDB, ReactJS/React Native, Node.js/Express.js, Google Cloud

EXPERIENCE

UC Davis: Center for Educational Effectiveness **May 2022 - Present**
Programmer *Davis, CA*

- Built dynamic data visualizations of student data collected by the university's Student Information System, to promote instructors to innovate educational practices.
- Collaborated with analytics, designers and programmers to develop charts/graphs/tables using React for classes that use LibreText.
- Developed backend routes for data aggregations of over 300,000 records using Node.js, Express.js, and MongoDB.

CodeLab **January 2022 – Present**
Developer *Davis, CA*

- Collaborated with developers and designers on a student course management app.
- Designed a user authentication system using Google OAuth to store and retrieve students' saved courses and schedules.
- Utilized MongoDB, Express.js, React, and Node.js to manage the Schedule Tool database and speed up loading times for AggieExplorer by 70%.

PROJECTS

Image Stitching AI | **Python, Jupyter Notebook** **May 2022**

- Utilized OpenCV library and Harris corner detection algorithm to assign key features in images.
- Wrote an algorithm to pair the best matching descriptors between 2 images, accounting for scale and rotation variance.
- Used RANSAC to estimate the homography, picking the best descriptor pairs for the image transformation and stitching.

Connect 4 AI | **Python** **February 2022**

- Designed a evaluation function that determines a 'payoff' for each move, encoding game strategies such as blocking and forking.
- Implemented the mini-max and alpha-beta pruning algorithm from scratch, automated the selection of moves based on the state closest to the Nash equilibrium.
- Alpha-Beta AI beat the MonteCarlo AI in 10 out of 10 games starting as either player 1 or 2.

Mind Design Sports App | **React Native, Expo, Android Studio** **May - August 2021**

- Developed the home screen, contact screen, and other front-end components for a mobile app.
- Organized assets and constants into separate folders to promote consistency in code.
- Created helper functions to promote modularity and code readability for potential future use.

RELEVANT COURSES

- Software Development and Object-oriented Programming
- Web Development
- Data Structures & Algorithms
- Algorithm Design and Analysis
- Operating Systems
- Database Management System (DBMS)
- Artificial Intelligence
- Android Development