Mel Avina-Beltran

(310) 259 - 4013 • melavinabeltran@gmail.com • github: mavina15 • linkedin: mavinabeltran • melavinabeltran.com

EDUCATION

UNIVERSITY OF CALIFORNIA, DAVIS, College of Letters and Sciences **December 2023**
Bachelor of Science in Applied Mathematics

SANTA MONICA COLLEGE **June 2019**

Relevant Coursework: Introduction to Programming, Introduction to Data Structures, Introduction to Artificial Intelligence, Theory of Computation, Visualizing Society with Data, Optimization, Applied Linear Algebra, Probability

SKILLS

- **Programming Languages:** R, Python, Matlab, C++, HTML, CSS, JavaScript
- **Data Analysis Libraries:** Scikit-Learn, Pandas, NumPy, Matplotlib, Seaborn, Keras, Pytorch, Tensorflow
- **Data Science and Miscellaneous Technologies:** Statistics, Data science pipeline (cleansing, wrangling, visualization, modeling, interpretation), Git, GitHub, GitLab, Excel

PROFESSIONAL EXPERIENCE

Junior Software Developer at UC DAVIS CODELAB **January 2023 - June 2023**

- Led cross-functional team of 4 developers and designers in 15-week project for software agency.
- Transformed Coursewise React.js web app, improving accessibility by 30% and usability by 25% through UI/UX redesign and enhanced data visualization. Implemented unit testing and code maintenance best practices, increasing page load speed by 25% and ensuring high-quality, scalable codebase.

Junior Software Developer at UC DAVIS MATH DEPARTMENT **January 2022 - June 2022**

- Developed Google Sheets extension in JavaScript to simulate infectious disease models, improving user experience by 60%.
- Created GUI using Cytoscape.js and Google Apps Script for enhanced visualization and interaction with mathematical models. Collaborated closely with seminar professor to align product with lesson plans and student objectives, leading usability evaluations and incorporating user feedback.

Electrical Engineering Intern at UCLA LEMUR **June 2019 - August 2019**

- Designed and developed user-friendly Python GUI for 5-year-olds to create robotic paper boats, integrating Flask, Arduino microcontrollers, and sensor technology.
- Collaborated with researchers to analyze Kindergarteners' creativity and efficiency through interactive robotic activities, informing development of new educational technology.

Electrical Engineering Intern at PROFICIA TECH **December 2018 - June 2019**

- Engineered highly accurate face detection and tracking system with 94% accuracy rate using Raspberry Pi, Arduino, Tensorflow, OpenCV, and pan/tilt mounts for precise control.

PROJECTS AND LEADERSHIP

Junior Data Scientist at UC DAVIS AI STUDENT COLLECTIVE **October 2023 - February 2024**

- Applied machine learning models in Python, NumPy, Pandas, Matplotlib, and Scikit-learn for breast cancer classification (Breast Cancer Wisconsin dataset), achieving 90%+ accuracy. Utilized evaluation metrics including confusion matrix, classification report, and ROC-AUC curve.
- Implemented predictive model for WNBA game outcomes. Conducted data cleaning, feature selection, and model training to predict game winners, achieving 70.4% accuracy.

Network Anomaly Detector for INTRODUCTION TO ARTIFICIAL INTELLIGENCE **August 2023**

- Led collaborative effort to develop final AI project with 5 team members.
- Engineered deep autoencoder neural network in Python (Tensorflow, Keras), managing 19,528-sample dataset and implementing Min-Max scaling for optimal performance.

Data Visualization for VISUALIZING SOCIETY WITH DATA **January - March 2022**

- Explored data visualization's impact on social issues using R, ggplot2, and tidyverse., analyzing U.S. Census data (1870-2010) to reveal shifting demographics and the Great Migration's impact.