Mel Avina-Beltran

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EXPERIENCE

Substitute Teacher at SWING, Sacramento Unified School District **January 2024 - Present**

- Delivered instruction across diverse grade levels (TK-12) in over 20 schools within the Northern California area, demonstrating adaptability and versatility in teaching various subjects and curricula.
- Achieved a request and preference rate of 70% due to consistently effective classroom management, engaging lesson delivery, and positive rapport with students and staff.
- Utilized data-driven approaches to assess student progress, identify areas for improvement, and tailor instructional strategies accordingly, contributing to enhanced learning outcomes.

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

- Led a collaborative effort with 5 team members to engineer a deep autoencoder neural network in Python using Tensorflow and Keras, managing a 19,528-sample dataset and implementing Min-Max scaling for optimal performance.

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

- Spearheaded and directed a cross-functional team comprising 4 developers and designers through a 15-week project for a prominent software agency, ensuring timely delivery and client satisfaction.
- Orchestrated a comprehensive overhaul of the Coursewise React.js web application, achieving remarkable enhancements in accessibility (30%) and usability (25%) by implementing a strategic UI/UX redesign and introducing advanced data visualization techniques.
- Implemented rigorous unit testing protocols and established best practices in code maintenance, resulting in a notable 25% improvement in page load speed and the cultivation of a high performance, scalable codebase.
- Demonstrated adept project management skills by coordinating tasks, conducting regular team meetings, and ensuring alignment with client objectives, thereby fostering a collaborative and results-driven work environment.

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

- Spearheaded the development of a Google Sheets extension using Javascript to simulate infectious disease models, resulting in a significant improvement of the user experience by 60%.
- Utilized Cytoscape.js and Google Apps Script to enhance visualization capabilities, allowing users to gain insights into infectious disease dynamics through intuitive graphical representations.
- Collaborated closely with seminar professors to align the product with course objectives and lesson plans, ensuring that the software addressed relevant topics and met educational requirements.

Data Visualization for VISUALIZING SOCIETY WITH DATA **January - March 2020**

- Explored data visualization's potential in elucidating historical and contemporary social issues, leveraging R and advanced analysis on U.S. Census data (1870-2010) to craft compelling narratives.
- Developed interactive maps showcasing shifting demographics and traced the impact of the Great Migration through captivating infographics and maps, contributing to a museum exhibit on African American history; employed rigorous statistical techniques to ensure objective narratives on complex social issues.

Junior Data Scientist for UC Davis AI Student Collective **Fall 2023 - Winter 2024**

- Developed a predictive model for WNBA game outcomes, employing data cleaning, feature selection, and model training techniques to achieve an accuracy of 70.4% in predicting game winners.
- Created a Flask web application using Bootstrap, incorporating an algorithm to leverage all available statistics for predicting final game winners, even in scenarios where chosen teams haven't directly played against each other.

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: Programming, Data Structures, Artificial Intelligence, Theory of Computation, Human-Computer Interaction, Visualizing Society with Data, Optimization, Applied Linear Algebra, Probability, Applied Numerical Methods, Complex Variables, Modern Algebra, Real Analysis, Ordinary Differential Equations

TECHNICAL SKILLS

R, Python, Matlab, C++, HTML, CSS, JavaScript, SQL, React, Vue.js, Tailwind, Google Apps, Google Apps Script, Git, Gitlab, Github, Microsoft Office (Excel, Word, Powerpoint), Tableau, Statistical Analysis, Quantitative and Qualitative Analysis, Data Mining, Scikit-Learn, Pandas, NumPy, Matplotlib, Seaborn, Keras, Pytorch, Tensorflow, Data Science Pipeline (Cleansing, Wrangling, Visualization, Modeling, Interpretation), Google Colab, Jupyter Notebooks, Flask, Bootstrap, APIs