Julian Vara

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Technical Skills

- Analyzed and visualized data from NASA datasets using R and RStudio, created predictive models and insightful presentations to convey complex data trends. Via ggplot2, tidyr
- Proficient in C++, Swift, and Python with a strong grasp of core programming concepts and problem-solving techniques.
- Currently developing an application in Xcode using Swift, focusing on efficient and scalable app development.
- Embedded Systems Development by programming LED street light simulation using ARM Assembly.

Experience

Undergraduate Research July 2024

California State University of San Bernardino *San Bernardino, CA*

- Interpret a dataset from NASA to develop a prediction model for the missing data from the information upon the semi-major axis from exoplanets. Used R Studio to clean up the data set and get rid of outliers.
- Initially used simple linear regression, achieving an 86% R-squared and RMSE of 1127.
- Improved the model with a log transformation, raising the R-squared to 99% and reducing RMSE to 0.162.
- Enhanced prediction accuracy by increasing the R-squared by 13% and decreasing RMSE by 1126, aiding in more efficient exoplanet data analysis and reducing research costs.

Summer School Teacher June 2023 – July 2023

Rialto Unified School District *Rialto, CA*

- Collaborated with fellow teachers to enhance student interactions, ensuring an optimal learning experience during the summer program.
- Trained students on Ardunio programming and soldering components.
- Taught students proper techniques to play drums and also orchestrated a performance with the students.

Projects

Code History | *Swift, SwiftUI, Xcode, API, IOS Development* Sep. 2024 – Present

- Developed user interactive IOS application with Swift programming on Xcode. Where the user needs to answer coding-related questions.
- Designed and implemented a dynamic, responsive UI with SwiftUI to create an engaging user experience with the application.
- Unitized MVVM architecture to communicate to other screens and clearly separate UI, business logic, and data management, improving code organization and scalability.
- Implemented real-time feedback and scoring algorithms to dynamically assess and compute user performance metrics after each quiz interaction.

Enhancing Convolutional Neural Networks with Layers | *Python, Pytorch, Vscode, transforms* March 2025

- Implemented additional convolutional and max-pooling layers in a neural network to improve performance.
- Calculated and analyzed output dimensions of each convolutional layer, ensuring correct layer compatibility.
- Gained hands-on experience with deep learning frameworks by running and modifying an existing CNN program.

Education

California State University of San Bernardino Aug. 2024 – Present

Bachelor of Science in Computer Science, Minor in Data Science *San Bernardino, CA*

Riverside City College Aug. 2022 – June 2024

Associate's of Science in Math and Science *Riverside, CA*

- Dean's Honor List
- Distinction

References

Eric Perez, Global Supply Manager, TESLA CA 626-327-2434
Michael Cantos, Senior Systems Engineer, Raytheon AZ 909-647-6016
Matthew Keeling, Geodata Engineering Team in Professional Services, ESRI CA 909-533-9099