

Julian Vara

909-800-0013 | jvara6282@gmail.com | linkedin.com/in/julian-vara/ | github.com/jvara34 | jvara34.github.io

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.
- Statistical Modeling and Machine Learning (R, Python): Experienced in developing predictive models using penalized regression (Lasso, Ridge) and distance correlation for high-dimensional data;

EXPERIENCE

Student Research Assistant

June 2025 - Present

California State University of San Bernardino

San Bernardino, CA

- Developed a novel variable selection method by integrating distance correlation into penalized regression models, enhancing model interpretability and predictive accuracy in high-dimensional data analysis.
- Conducted extensive simulations and applied the method to real-world datasets using R/Python, comparing performance with traditional techniques like Lasso, Ridge, and Pearson's correlation.
- Presented research findings at a major academic conference, showcasing the proposed methodology and results to a broad audience of faculty, researchers, and peers, demonstrating strong public speaking and scientific communication skills.

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.
- 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.

Student Assistant Peer Advisor

March 2025 - Present

California State University of San Bernardino

San Bernardino, CA

- Collaborate closely with a team of peer advisors, faculty, and staff to deliver consistent academic support services, adapting strategies as the role evolves to meet emerging student needs.
- Communicate effectively with diverse student populations through one-on-one advising and group presentations.

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 Arduino programming and soldering components.

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.
- Implemented a dynamic, responsive UI with SwiftUI to create an engaging user experience with the application.
- 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, Vscope, 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