Julian Vara

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Education

California State University of San Bernardino Aug. 2024 – Present
Bachelor of Science in Computer Science, Minor in Data Science GPA: 3.91 *San Bernardino, CA*

Riverside City College Aug. 2022 – June 2024
Associate of Science in Math and Science GPA: 3.30 *Riverside, CA*

Experience

Undergraduate Data Science Researcher Aug. 2025 – Present
The Data Mine, Purdue University

- Developing a GPU-accelerated license plate recognition system using Python, OpenCV, TensorFlow, and NVIDIA CUDA, capable of processing 3,000 vehicles per hour per lane.
- Optimizing image recognition models with V2X engineers to improve detection reliability across varied conditions while expanding expertise in computer vision, text classification, and high-performance computing. Delivered technical presentations to project stakeholders/shareholders

Student Research Assistant June 2025 – August 2025
California State University of San Bernardino *San Bernardino, CA*

- Reduced 17K+ predictors down to 20 without sacrificing accuracy by applying penalized regression with distance correlation, streamlining model complexity.
- Improved predictive performance by lowering MSE from 0.3255 to 0.2299 and optimizing AIC/BIC values through advanced regression modeling. Ran large-scale simulations and data analyses in R/RStudio.

Student Research Assistant July 2024
California State University of San Bernardino *San Bernardino, CA*

- Interpreted a dataset from NASA to develop a prediction model for missing data on the semi-major axis of exoplanets. Using R/Rstudio for data manipulation and creation of the log transformation model.
- Improved the model with a log transformation, raising the R-squared to 99% and reducing RMSE to 0.162.

Student Assistant Peer Advisor March 2025 – Present
California State University of San Bernardino *San Bernardino, CA*

- Collaborated with faculty, staff, and peers to deliver academic advising services, effectively communicating with diverse student populations through individual sessions. Using Microsoft programs such as Teams, Excel, Powerpoint, and Word.

Research

Comprehensive Study of Cancer Detection with Deep Learning Aug. 2025 – Present
California State University, San Bernardino

- Researching deep learning methods for cancer detection classification by experimenting with CNNs, ResNet, VGGNet, GoogLeNet, and EfficientNet. Utilized Python and Juypter notebook for the extensive library in Deep Learning.
- Building and refining scalable neural network architectures on a High Performance Computing (HPC) cluster using TensorFlow and Keras to enhance training efficiency and predictive accuracy. Co-authoring a research-level paper with faculty detailing methods, results, and implications

Projects

Stalk.AI | *Python, React, HTML, FastAPI, MUI, Vercel* August 2025 – Present

- Developed FastAPI endpoints to serve daily stock predictions from a machine learning model.
- Automated stock data ingestion and formatting using yfinance and Firebase Firestore.
- Implemented Firebase Authentication and assisted in building secure, user-facing frontend pages.

Certificates

- Learn C++ *Codecademy — Course, Jun 2024*
- Intro to Generative AI *Codecademy — Course, Jun 2025*
- Build a Website with HTML, CSS, and GitHub Pages *Codecademy — Skill Path, Sep 2025*