# Hector Rios

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## EDUCATION

**San Jose State University | San Jose, CA**

B.S. in Computer Science, Minor in Statistics GPA: 3.7/4.0 **May 2027**

**Relevant Courses:** Machine Learning Foundations, Object-Oriented Design, Data Structure and Algorithms, Discrete Mathematics, Introduction to Computer Systems, Introduction to Programming

## TECHNICAL SKILLS

**Programming Languages:** Java, Python, JavaScript, C++, C

**Software & Technologies:** React, MongoDB, Express JS, Node.JS, Pandas, TensorFlow, Jupyter Notebooks, Google Colab

## PROFESSIONAL EXPERIENCE

**CodeDay Labs,** San Jose, CA

*Software Engineering Intern* | Typescript, Python, MySQL, PostgreSQL 2/2025 - 3/2025

- Partnered with an industry mentor to diagnose and resolve schema drift issues in Prisma ORM across multiple database systems (MySQL, PostgreSQL, MSSQL), improving error/warning clarity by 30%.
- Implemented detailed unit and integration test coverage to safeguard edge-case migrations, increasing confidence in production schema changes
- Strengthened backend reliability by analyzing schema diff behaviors and proposing non-destructive migration workflows..

**C.W.D Engineering Department,** San Jose, CA

*Undergraduate Research Assistant* | Yolov8, Python, Pandas, NumPy 8/2024 - 2/2025

- Boosted computer vision model by 20% through enhanced training techniques and dataset augmentation, significantly improving object detection performance
- Built automated data pipelines with Pandas and NumPy to clean, annotate, and prepare vision datasets, reducing iteration time by 40%.
- Conducted performance evaluations across model checkpoints to refine training hyperparameters and improve generalization.

**Project Engineering Success,** San Jose, CA

*Machine Learning Intern* | TensorFlow, Python, ScikitLearn, Pandas, Numpy 9/2023 - 5/2024

- Developed a neural network model achieving 80-90% accuracy in malware detection, demonstrating the impact of larger datasets on model performance.
- Utilized NumPy, Pandas, and Sklearn for efficient data handling and preprocessing of opcode sequences, ensuring precise inputs for classification.
- Benchmarked multiple model architectures in Scikit-Learn and TensorFlow to identify trade-offs between performance and inference speed.

## PROJECTS

**SafeRouteSJ** | React, Firebase, Express, and Google Maps API Github

- Awarded 1st Place @SJHacks for developing and deploying a social media application that finds the safest route around San Jose that interacted with 200+ test users
- The app analyzes past crime data and provides a risk assessment for different routes, prioritizing paths that avoid high-risk areas
- Leveraged Google Maps API to facilitate the handling of different paths

**EquiBot** | Swift, Flask, UIKit, Firebase, Gemini API Github

- Built and Developed an IOS app that simplifies navigating California law through a chatbot-powered interface
- Developed with SwiftUI, integrated with Firebase for user authentication and Firestore-based data storage
- Implemented a Python backend for chatbot processing and connected it via URLSession for real-time legal query responses

**Superhost Predictor - AirBnB Classification** | ScikitLearn, Python, Pandas, NumPy, Seaborn, Pickle Github

- Engineered a logistic regression model to classify superhosts with 82.9% accuracy using a preprocessed dataset of 10,000 listings
- Performed hyperparameters tuning via GridSearchCV and feature selection using SelectionKBest, achieving an optimized AUC of 0.823
- Evaluated model performance using confusion matrix, precision-recall curves, ROC AUC metrics to ensure reliable predictions

## LEADERSHIP AND PROFESSIONAL DEVELOPMENT

**LatinxInTech@SJSU**, *Cofounder* 1/2025-Present

- TBD

**Management Leadership for Tomorrow**, *Career Prep Fellow* 1/2025-Present

- Accepted into a selective 18-month professional development program for high-achieving talent
- Completed business case studies and assignments to grow leadership and technical skills

**Break Through Tech,** *Fellow* 1/2025-Present

- Selected from 1500+ applicants for the Break Through Tech AI program at Cornell Tech
- Committed to participate in a 12-month long program including Machine Learning coursework with Cornell faculty, experiental learning experiences, and mentorship from industry professionals.