Andrew Munoz Arvizu

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EDUCATION

California Polytechnic State University, San Luis Obispo
Bachelor of Science, Computer Science June 2026

Relevant Coursework: Data Structures & Algorithms, Project-Based Object-Oriented Prog & Design, Discrete Structures, Systems Programming, Coursera Machine Learning Specialization

SKILLS

Programming Languages: Python, C++, Java, C, JS, HTML, CSS
Technologies & Tools: PostgreSQL, AWS, Node.js, Next.js, TensorFlow, scikit-learn, Pandas, Git, Unix
Soft-Skills: Problem Solving, Adaptability, Collaboration, Innovation

PROGRAMMING PROJECTS

NLP Trading Bot | Python, huggingface, Alpaca API

- Achieved a total return of 149% over three years by designing and implementing a machine learning-based trading bot using Alpaca API and FinBERT, outperforming the S&P 500's return of 33% during the same period.
- Enhanced trading accuracy by 25% through the integration of sentiment analysis, leveraging FinBERT to analyze financial news, resulting in a Sortino ratio of 1.29 and an expected yearly return of 25.57%.
- Improved risk management by 90**%** by employing advanced backtesting with YahooData, demonstrating superior performance with a RoMaD of 0.81, significantly higher than the benchmark's 0.41.

Recipe App | Java, React,

- Developed a full-stack Recipe App in Java and React, collaborating with a team to enhance user experience, achieving a 90% success rate in ingredient validation using Kroger's API
- Integrated OpenAI's GPT model to validate recipe URLs, reducing error rates by 30% and improving the accuracy of ingredient and step extraction by 25%.
- Collaborated on the design and implementation of a video parser, extracting and refining recipe content with 90% accuracy, contributing to a more reliable user experience.

AI-Driven Criminal Activity Analysis Tool | Python, Giskard, AWS Aurora, AWS Bedrock

- Engineered an AI solution during a hackathon to assist law enforcement by clustering police reports into serial crime categories.
- Utilized AWS Aurora for scalable data processing over 1000 reports, and transformed data using Claude and TF-IDF, achieving 85% accuracy in feature extraction.
- Applied DBSCAN clustering, generating clusters that revealed 18 crime patterns, enhancing law enforcement efficiency and community safety.
- Secured text processing interfaces with Giskard, mitigating prompt injection attacks, ensuring 90% data integrity.