Bryan Ramirez-Gonzalez

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EDUCATION

The University of Southern California **Los Angeles, CA**
Bachelors of Science in Computer Science, Merit Scholar, Honors Engineering *Expected May 2028*

- Relevant Coursework: Computer Science Fundamentals (C++), Calculus, Python Programming, C++ Object Oriented Programing, Elementary Statistics, Principles of Macroeconomics, Discrete Mathematics in Computer Science

EXPERIENCE

Jane Street Capital **New York, NY**
Incoming Undergraduate Fellow *May 2025*

- Selected as 1 of 14 students for a fully funded 5-day program at Jane Street's NYC office through FOCUS Fellowship

HUMANS LAB, The University of Southern California Information Sciences Institute **Los Angeles, CA**
Research Intern *August 2024 - Present*

- Analyzed a dataset of 40,000+ TikTok videos to study correlations between TikTok content and eating disorders.
- Utilized NLP techniques, including Latent Dirichlet Allocation and sentiment analysis with Python's NLTK library, on 200,000+ comments
- Performed sentiment analysis on more than 100,000 video descriptions and comments using TextBlob and V ADER, classifying emotional tone and combining results with Word2Vec embeddings, enhancing insights into eating disorder portrayal with an accuracy improvement of 15%.
- Performed correlation analysis and identified key trends across 50+ engagement metrics (likes, shares, comments), revealing top impactful posts and hashtag usage patterns (e.g., #EDAwareness), using Seaborn and Matplotlib for data visualization.

Melady Lab, The University of Southern California **Los Angeles, CA**
Summer Undergraduate Research Intern *July 2024 - August 2024*

- Enhanced OpenAI's CLIP Model by improving its ability to detect multimodal misinformation in over 80,000 text-image pairs, focusing on subtle inconsistencies between true text and manipulated images through advanced Multimodal Machine Learning techniques in PyTorch
- Developed a comprehensive, realistic dataset of synthetic misinformation by pairing related but incorrect images with true text, providing over 80,000 challenging examples to improve the model's training, making it more robust against deceptive content compared to random mismatches
- Demonstrated the model's ability to generalize to real-world misinformation scenarios involving sophisticated false image-text relationships, achieving significant improvements in detection capabilities

Goldman Sachs Engineering Possibilities Summit **Remote**
Software Engineering Participant *January 2025 - Present*

- Exclusive summit focused on software engineering and technical excellence, gaining exposure to Goldman Sachs'
- Collaborated with engineers through technical challenges, career development sessions, and algorithmic/technical problem-solving

Jane Street Capital **New York, NY**
Undergraduate Fellow *July 2024*

- Selected as 1 of 37 students for a fully funded 5-day program at Jane Street's NYC office through Unboxed Fellowship
- Participated in trading activities and led a team in the Estimathon, solving quantitative challenges under competitive conditions

Activity / Extracurricular - 3x Hackathon Winner

- **Hackathons:** Harvard's HackHarvard (Winner), CalTech's TechHack (Winner), AstroHacks (Winner), UC Berkeley's AI Hackathon, UPenn's PennApps, Yale's YHacks, Princeton's HackPrinceton, Stanford's TreeHacks **Other Competitions:**, Jane Street's Estimathon, YHack's Estimathon, MIT's iQuHack
- **Student Organizations:** Google Trusted Tester, Poker Club, ColorStack, SHPE, Alpfa
- **Other:** Two Sigma 2025 New Seekers Summit, Susquehanna Discovery Day for First Year Students, AWS AI & ML AI Programming with Python Nanodegree, Break Through Tech AI Program, CodePath Technical Interview Prep, Data Structures Course

PROJECTS

PrizePicks Prediction Model *(Personal Statistical/Data Analytic Project - https://github.com/bryanrg22/prizePicks_predictionWebsite)*
Lead Developer *February 2025 - Present*

- Developed an automated player performance prediction model to identify optimal betting opportunities on PrizePicks (January 2025 – Present), analyzing player stats, team rankings, and matchup history, resulting in a 29,900% increase in account balance from $10 to $3000.
- Implemented advanced data-driven analysis by integrating sports data (historical stats, news, and injury reports) and probability models (Poisson distribution, Monte Carlo simulations), achieving a 11/14 lineup win rate and $3000 in total earnings.
- Utilized Python, Pandas, and NumPy to automate data extraction and statistical analysis, while incorporating OCR for text recognition and real-time data visualization to improve the accuracy and speed of player performance evaluations.
- Built a responsive and user-friendly frontend using React + Vite and Tailwind CSS, enabling users to input player picks, view real-time predictions, and analyze performance trends through a dynamic interface.
- Deployed for active use with multiple users, leveraging Firebase's Database to manage accounts, securely store personalized betting data, and provide real-time syncing of predictions and results across sessions.

Swift *(Winner @ CalTech's HackTech Hackathon - https://github.com/bryanrg22/CalTech-Hacks)*
Lead Developer *April 2025*

- Reduced procurement cycle time by shipping "Hugo", a LangChain agent that routes queries through GPT-3.5-turbo (tool selection) and o4-mini (multi-step reasoning) to predict inventory gaps and auto-push Slack PO recommendations.
- Designed and implemented a React + TailwindCSS dashboard (Recharts + MapLibre GL) that live-streams stock-out risks, supplier reliability, and shipment paths.
- Built a Flask backend, frontend, and configured Firebase database to automate end-to-end data ingestion from ERP systems, CAD files, and user uploads.

SKILLS

Programming Languages: Python, Java, C/C++, Lua, SQLite, JavaScript, HTML, CSS
Frameworks and Tools: React, Flask, Next.js, TailwindCSS, Vite, APIs, PyTorch, TensorFlow, Matplotlib, Terraform, NumPy, Pandas, NetworkX