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 Research Track Expected May 2028
- Relevant Coursework: Data Structures, Algorithms, Object Oriented Programing (C++), Computer Science Fundamentals (C++), Python Programming, Elementary Statistics, Discrete Mathematics in Computer Science, Calculus, Linear Algebra

EXPERIENCE

HUMANS LAB, USC ISI - *github.com/bryanrg22/electionBetsImpact* **Los Angeles, CA**
Summer Undergraduate Research Intern (Election-Bets Impact) *May 2025 - Present*
- DesLeveraged the lab-built Twitter scraping bot and the lab's U.S. presidential-election Twitter dataset to collect election-related tweets; configured auth + keyword lists, ran collection jobs, and exported structured JSON/CSV for analysis.
- Initiated Kalshi market integration: set up API access and tested order-book pulls; drafted a time-alignment plan to link price swings with tweet windows for later Granger/DiD tests.

HUMANS LAB, USC ISI - *bryanram.com/research.pdf* **Los Angeles, CA**
Undergraduate Research Intern *August 2024 - May 2025*
- 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 VADER, classifying emotional tone and combining results with Word2Vec embeddings, boosting 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.

Jane Street Capital **New York, NY**
Undergraduate Fellow (Unboxed '24; FOCUS '25) Jul 2024 & May 2025
- Selected as 1 of 37 (Unboxed '24) and 1 of 14 (FOCUS '25) for funded fellowships at Jane Street's NYC office.
- Completed trading exercises and Estimathon-style problem solving; collaborated with engineers and traders in workshops.

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

Activity / Extracurricular - 3x Hackathon Winner
- **Awards & Select Programs:** HackHarvard Winner, Caltech HackTech Winner, AstroHacks Winner; Jane Street Unboxed Fellowship, Jane Street FOCUS Fellowship, D. E. Shaw's Connect Fellowship, Two Sigma New Seekers Summit, SIG Discovery Day

SKILLS

Programming Languages: Python, Java, C/C++, SQL, JavaScript, TypeScript
Frameworks/Tools: React, Tailwind CSS, Flask, Firebase (Auth, Firestore, Hosting, Cloud Functions), Google Cloud Run, Git/GitHub, GitHub Actions (CI/CD), NumPy, Pandas, Matplotlib

PROJECTS

Lambda Rim *(Full-Stack Statistical & ML Hub for NBA Fantasy Betting -* *github.com/bryanrg22/lambda-rim* / *lambdarim.com* **)**
Founder & Sole Developer February 2025 - Present
- Engineered a full-stack forecasting platform (Poisson, Monte Carlo, GARCH) for NBA fantasy picks, achieving 78%+ win rate and bankroll growth from $10→$3,000 in documented runs.
- Cut analysis time from 15 min → seconds by building an automated OCR → prediction pipeline (screenshot parsing, NBA API) with ML-derived probabilities and ChatGPT rationales.
- Shipped real-time analysis via React + Vite and Flask on Cloud Run; CI/CD with GitHub Actions and Cloud Functions for background jobs.

Swerve *(Winning Project At CalTech's HackTech Hackathon -* *github.com/bryanrg22/CalTech-Hacks*)
Lead Developer April 2025
- Reduced procurement cycle time by shipping "Hugo", a LangChain agent routing 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 live-streaming stock-out risks, supplier reliability, and shipment paths.
- Built a Flask backend, frontend, and configured Firebase database to streamline data ingestion from ERP systems, CAD files, and user uploads.
- Flown to Dryft's San Francisco offices for on-site collaboration from their software engineering team, to continue developing the project.