OM JANAMANCHI

732-947-2233 | omjanamanchi@gmail.com | linkedin.com/in/omjanamanchi | github.com/omjanamanchi

EDUCATION

Purdue University **Expected May 2027**

B.S. in Computer Science, Minor in Mathematics & Finance | ***GPA:*** *4.00 / 4.00* | ***SAT Math:*** *770* *Indianapolis, Indiana*

- **Relevant Coursework:** Data Structures & Algorithms, Computer Architecture, Multivariable Calculus, Linear Algebra, Probability & Statistics
- **Hackathons:** 1st Place HackSB, 2nd Place Young Gates Hackathon, 5th Place Mercer County Hackathon, Cyber Start America Bronze Award
- **Awards:** SIG Susquehanna First Year Discovery Day, Consolidated Edison Scholarship

PROFESSIONAL EXPERIENCE

Data Science Engineer **August 2024 – May 2025**

The Data Mine - Delta Faucet Company *Indianapolis, Indiana*

- Developed an NHPP-based failure prediction model improving warranty forecasting accuracy by over 90% across 6-year lifecycles
- Built a web tool enabling non-technical Delta teams to visualize SKU-level failure forecasts and optimize inventory planning
- Reduced overstock and replacement costs by estimating average per-case warranty costs from 200,000+ historical claims

Student Executive Administrative Assistant **October 2024 – Present**

Purdue Computer Science Department *Indianapolis, Indiana*

- Bridged gap between CS students and the Department Head through open discussion forums for 1000+ students
- Coordinated successful Food Truck Event attracting 400+ students fostering community engagement
- Managed Purdue CS Department Reception Desk assisting 250+ students, 20+ staff members, 10+ student organizations, and university donors

Computer Science Research Associate **August 2023 – September 2024 | Publication**

UC Berkeley MITRA Data Team *Remote*

- Engineered NLP algorithms with 90% accuracy for OCR correction on 10,000+ Sanskrit texts
- Developed an AI classifier with 80% precision in meta-dataset categorization
- Reduced data errors by 25% with deduplication techniques; presented work at a virtual conference with the Dalai Lama

PROJECTS

Crypto Triangular Arbitrage | *Python/Cython, Bellman-Ford Algorithm, Binance WebSocket* **February 2025 – Present | GitHub**

- Engineered synthetic data pipelines using ARIMA model simulations, enabling backtesting for 1M+ trades and enhancing algorithm accuracy 5x
- Optimized Bellman-Ford arbitrage logic with VWAP & Z-score imbalance signals, boosting trade quality for cross-exchange & latency arbitrage

Finmath: High-Performance Financial Mathematics Library | *C++, Python (pybind11)* **September 2024 – Present | GitHub**

- Optimized performance of financial calculations, achieving a 57% speedup in interest calculations compared to GSQuant (0.0217s vs. 0.0121s)
- Enhanced option pricing performance, reducing Black-Scholes computation time by 2300% (0.0305s vs. 0.7227s)
- Improved Binomial Option Pricing efficiency, cutting calculation time by 700% (0.7503s vs. 5.2394s), for high-frequency financial applications

AI Agents - Evolution of Genetic Algorithms | *Raylib, C* **February 2024 – April 2024 | GitHub**

- Developed a game simulating the evolution of 2 types of autonomous agents, improving survival metrics by 30% per generation
- Designed interactive game world with Raylib, incorporating leaderboard, timer, and evolution metrics, tracking 500+ evolutionary rounds

Financial News Sentiment Analysis | *Python, PyTorch, Hugging Face* **September 2023 – January 2024 | Colab**

- Analyzed 1,000+ financial news articles, developed neural network model with 85% accuracy for sentiment classification
- Enhanced sentiment classification by 15% through NLP pre-processing, achieving an F1 score of 0.82
- Engineered LSTM and BERT models, achieving 92% precision using PyTorch and the Hugging Face transformer library

STUDENT ORGANIZATIONS

Boiler Quant – Director of Industry Relations **September 2024 – Present | boilerquant.com**

Purdue University *West Lafayette, Indiana*

- Built alumni database of 254 quants, hosting panels, resume reviews, mock interviews, and coffee chats for members
- Secured corporate sponsorships from 160+ quant firms, organized office tours, and provide trading competitions and conferences

Computer Science Club – President **September 2024 – Present | csclubpui**

Purdue University *Indianapolis, Indiana*

- Created exciting events that enhance engagement for 200+ members and streamlining Code-Collab workshops
- Organized annual Hackathon with 300+ participants, managing logistics, sponsorships, and programming challenges

TECHNICAL SKILLS

Languages: C, C++, C#, Java, Python, R, Dart, HTML/CSS/JavaScript, LaTeX, SQL
Libraries/Frameworks: NumPy, Pandas, Matplotlib, Scikit-learn, Flutter, React, Node.js, Firebase
Developer Tools: Git, VS Code, PyCharm, IntelliJ, Android Studio, Unity VR/AR, Ubuntu VMs
Technical: Unit Testing, Application Design, Debugging, Linux, REST APIs, LLMs, Machine Learning, NLP, Computer Vision
Certifications: Akuna Options 101, American Red Cross Lifeguarding & CPR/AED
Interests: Chess, Poker, Competitive Programming