Aadithya Srinivasan

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Education

BSE **University of Pennsylvania** *Computer Science and Mathematics, GPA: 3.5/4.0* — May 2027

- Coursework: Machine Learning, Discrete Math, Algorithms, Big Data Analytics, Data Structures, Human Computer Interaction, Advanced Python Programming, Internet Systems, Statistics
- Societies: Wharton Investment & Trading Group, Penn Poker Club, Penn Undergraduate Mathematics Society

Experience

Nayya, *Data Analytics/Data Science Intern* — New York City, NY, April 2025 – Aug 2025

- Engineered scalable SQL + Python pipelines processing 100M+ pharmacy/medical claims with Athena, PostgreSQL, dbt; uncovered cost drivers and formulary misalignments, supporting pricing strategy.
- Automated anomaly detection across millions of rows (outliers, duplicates) with Pandas/NumPy, integrating results into regulatory royalty reporting flows; validated with actuaries to ensure financial accuracy.
- Delivered interactive Sigma dashboards with trend forecasting and variance analysis, enabling executives to make data-driven product and pricing decisions.

Aristotle — Your AI SDR, *Software Engineer Intern* (backend + AI integrations on AWS) — Remote, Jun 2023 – Sep 2023

- Prototyped generative-adversarial persona models and deployed AI-driven backend services (TypeScript, Python, AWS) for automated sales enablement.
- Integrated NLP-based API features to improve lead targeting and response personalization, optimized lead-matching pipeline, cutting latency 20%, improving real-time client demo success rates.

New Jersey Institute of Technology (HSSRI), *Student Research Intern* — Newark, NJ, Jun 2023 – Aug 2023

- Conducted computational modeling of visual perception systems using TensorFlow, scikit-learn, and PsychoPy, Designed and evaluated ML models on experimental datasets, applying statistical methods to quantify perceptual accuracy. Presented findings at NJIT Research Symposium.

Projects

Supplement Recommender Repo

- Designed full-stack SaaS for personalized supplement tracking, AI-driven plan generation, and compliance monitoring.
- Built predictive adherence analytics and risk flags, enabling 20% improvement in habit compliance in pilot testing.
- Tech stack: React, Node, PostgreSQL, dashboards for adherence KPIs; roadmap includes RL for adaptive dosing plans.

Chess Engine & Analysis Platform Repo

- Built a UCI-compatible chess engine with bitboards, incremental move generation, and Zobrist hashing; validated correctness via PERFT
- Implemented alpha-beta search with iterative deepening, transposition tables, killer/history heuristics, quiescence search, late-move reductions, null-move pruning, and aspiration windows; designed a tapered/NNUE-style evaluation (piece-square tables, mobility, king safety, pawn structure) trained in PyTorch with CI'd self-play ELO tracking and SPRT regression gates.
- Created a FastAPI + React analysis UI visualizing principal-variation lines, evaluation graphs, and move timings; learned game-tree search, heuristic evaluation design, and systems profiling. Competitive chess background: chess.com 2300 (USCF 99th percentile).

PokerBot Repo

- Developed reinforcement learning agent (call/raise/fold) using Keras and NumPy; implemented reward shaping to improve strategy convergence. Trained over 10,000 simulated hands to optimize decision-making under uncertainty, achieving 249% chip gain improvement
- Implemented Q-learning neural network with epsilon-greedy exploration and strategic reward function for optimal poker play

Honors & Skills

- 36/36 ACT, National Merit Finalist; 2x ACSL Finalist; 3x AIME Qualifier (AMC12: 126, AIME: 8); USACO Plat; 2300 chess.com (99th percentile)
- *Programming:* Python (Pandas, NumPy, TensorFlow, scikit-learn), Java, C++, SQL, TypeScript/JavaScript, React, HTML/CSS, Git, Linux, Docker
- *Data/ML:* statistical modeling, predictive analytics, reinforcement learning, natural language processing, time-series forecasting, optimization, stochastic processes, Monte Carlo methods, large-scale data processing, data viz, derivatives pricing, portfolio optimization, risk management
- *Platforms/Tools:* Athena, PostgreSQL, dbt, Sigma, AWS (Lambda, S3, EC2), Jupyter, GitHub