

## Education

**BSE University of Pennsylvania** *Computer Science and Mathematics, GPA: 3.43/4.0*

May 2028

- Coursework: Machine Learning, Discrete Math, Algorithms, Big Data Analytics, Data Structures, Human Computer Interaction, Advanced Python Programming, Internet Systems, Statistics, Advanced Linear Algebra (in progress), Discrete Mathematics II (in progress), Probability (in progress)
- Societies: Wharton Investment & Trading Group, Penn Poker Club, Penn Math Society, SIF

## Experience

**IBM,** *Associate Developer Intern — AWS Cloud Full Stack (Incoming)*

- Incoming Summer 2026 intern on an AWS cloud full-stack team.

May 2026 – Aug 2026

**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.

**New Jersey Institute of Technology (HSSRI),** *Student Research Intern*

Newark, NJ

Jun 2023 – Aug 2023

- Conducted computational modeling of visual perception systems using TensorFlow, sk-learn, and PsychoPy.

## Projects

### Sports Arbitrage & Event Trading Bot

- Built an automated trading system that monitors live sports markets and flags mispricings using a proprietary signal pipeline; achieved +374% bankroll growth in forward testing with positive P&L in live usage.
- Engineered an asynchronous Python data-ingestion stack (asyncio/httpx) to stream real-time game and pricing updates across multiple sports (NFL/NBA/NCAA), with robust normalization to reconcile inconsistent team/market naming.
- Implemented a disciplined execution/risk framework with dynamic kelly sizing, fee-aware accounting, and detailed logging/analytics.

### ML-Based Stock Price Prediction [Repo](#)

- Built an end-to-end time-series ML pipeline on Yahoo Finance equity data (AAPL and arbitrary tickers) using engineered technical indicators (SMA, EMA, RSI, rolling volatility, momentum) to predict next-day closing prices.
- Trained and compared Linear Regression, Random Forest, and SVR models using MAE/MSE/R2, tuning hyperparameters and shipping an interactive Jupyter demo where users choose tickers/date ranges and visualize historical versus predicted prices.

### PokerBot [Repo](#)

- Developed a 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.
- Implemented a Q-learning neural network with epsilon-greedy exploration and a strategic reward function for expected value.

## 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