

Elliott Salpekar

elliott.salpekar@gmail.com — (470) 910-1152 — LinkedIn — Portfolio: esalpekar.github.io/Me — GitHub: [esalpekar](https://github.com/esalpekar)

Education

Georgia Institute of Technology, Atlanta, GA Expected May 2028
BS in Mathematics, BS in Computer Science **GPA: 4.0 / 4.0**
Selected coursework: Combinatorics, Differential Equations, Advanced Microeconomics, Proof Writing, Linear Algebra, Electrostatics, OOP

Stony Brook University, Stony Brook, NY May 2025
BA in Economics, Presidential Scholarship
Selected coursework: Multivariable Calculus, Intermediate Microeconomics
Activities: Investment Club, Quant Club, Math Club, Run Club

Technical Skills

Programming & Tools: Python (Pandas, NumPy, PyTorch), Java, SQL, Git, HTML, \LaTeX , Microsoft Office, Google Cloud, Azure, Virtual Machines

Other: Analytic Modeling, Probability and Statistics, Deep Learning, Data Analysis, Neural Network Development

Research Interests: Stochastic Processes, Information Theory, Physical Simulation, Time Series

Awards

Placed 11th out of 2,500+ students nationwide in Skew The Script's national Data Science Challenge May 2023
First Prize, Music Composition — Ithaca High School Literary Issue, two consecutive years

Technical Experience

Software Engineering Intern — *Bay Point Advisors. New York City, NY* May 2026 – Aug 2026

- (Summer 2026) Private credit. Underwriting risk modeling and automation.

Quantitative Analyst — *GTSF Investments Committee Quant Sector. Atlanta, GA* Jan 2026 – Present

- Selected from a competitive mentorship process (8% acceptance) to research, test, and implement fully automated trading strategies for the Georgia Tech Student Foundation's \$2.8M investment fund.
- Designing, experimentally validating, and deploying a library of interpretable market-wide state variables.

Student Researcher — *Georgia Institute of Technology. Atlanta, GA* Jan 2026 – Present

- Algebraic Statistics, under the supervision of Dr. Ikenna Nometa. Analyzing the Maximum-Likelihood Degree of Hardy-Weinberg mixture models.

Technology Intern — *OxBlue. Atlanta, GA* Dec 2024 – Jan 2025

- Ideated and programmed an automated pipeline to prepare billing data and flag anomalies, replacing a multi-day manual cleaning process and reducing effort by 70%.
- Cold-called 100+ clients to communicate overdue invoices and errors, reconciling over \$500K in billed funds.
- Shadowed CFO to learn corporate finance workflows.

Selected Projects

Qualitative AIXI Approximator (Azure, Google Cloud, Playwright) GitHub

- Proposed a practical approximation of the theoretically optimal, uncomputable reasoner "AIXI" (Hutter, 2005), translating into code the first principles of Reinforcement Learning within algorithmic information theory.
- Designed a network of LLM-powered agents and a constitution-based environmental feedback loop to emulate AIXI-like decision-making under an uncertain environment, recasting tools as environmental elements.

Custom Backtesting Engine and PEP/KO Cross Model (Python, Pandas, scikit-learn, PyTorch) GitHub

- Built a custom backtesting engine and report dashboard using data loaded dynamically from three providers.
- Trained and optimized a PyTorch neural network predicting Coca-Cola equity price from PepsiCo prices which achieved consistent Sharpe Ratios of 1.0+.

Custom Retail Analytics Suite (Azure, Google Cloud)

- Created a series of analytics tools to identify customer behaviors, price items, and inform stocking decisions using forecasting techniques such as Factorization Machines and Kaplan–Meier Survival Analysis.

- Automated dataflow from a popular POS system's API and integrated features into an HTML frontend.

Activities and Interests

- **Piano Performance and Recording Club.** Founded a student organization providing recording/performance resources, securing \$4,000+ in institutional funding.
- **World Travel (Aug 2023 – Aug 2024).** Circumnavigated the world on personal savings over the course of a year.
- **Outdoor Athletics.** Cycled 1,400+ miles across Southeast Asia independently, summited El Chachani, Peru (20k ft above sea level), regular marathons.
- **Volunteer Service.** Taught Spanish to native Quechua-speaking orphaned students at Azul Wasi Orphanage, Peru (Jun 2023 – Jul 2024). Prepared and led English classes at Kad Sala English Camp, Thailand (Feb – Mar 2024).

Languages: Spanish (Fluent), English (Native)