

Elliott Salpekar

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EDUCATION

Georgia Institute of Technology

Bachelor of Science in Mathematics

Atlanta, GA

Expected May 2027

Stony Brook University

Bachelor of Arts in Economics, *Presidential Scholarship*

Stony Brook, NY

May 2025, GPA: 3.96

Relevant Coursework: Differential Equations, Multivariable Calculus, Intermediate Microeconomics

Activities and Societies: Investment Club, Quant Club, Math Club, Run Club

INDEPENDENT RESEARCH AND PROJECTS

Research Interests: Algorithmic Information Theory, Biochemical Simulations, Time Series Forecasting, Market Analytics

Qualitative AIXI Approximator

- Theorized a practical proxy for the theoretical ideal and uncomputable reasoner called AIXI (Hutter 2005)
- Assembled a network of LLM-powered agents and a constitution-based environmental feedback system to mimic AIXI
- Formalized the information flow as uncompressed, qualitative yet high-fidelity text data for LLM comprehension

PepsiCo/Coca-Cola Cross Model and Custom Backtesting Engine

- Created a custom backtesting engine using 40+ years of historical data
- Trained and optimized a neural network using PyTorch that predicts Coca-Cola equity from PepsiCo prices
- Integrated predictions into a trading strategy with consistent Sharpe Ratios of 1.2+

Custom Retail Analytics Suite

- Created a series of analytics tools to identify customer behaviors, price items, and inform stocking decisions
- Used forecasting techniques such as Factorization Machines, Transformers, and Kaplan-Meier Survival Analysis
- Automated dataflow from a popular POS system's API and integrated features into a user-friendly HTML frontend

PROFESSIONAL

OxBlue

Accounting Intern

Atlanta, Georgia

December 2024 – January 2025

- Programmed an automated procedure and Excel workspace to prepare billing data, reducing manual effort by 70%
- Cold-called 100+ clients to collect overdue invoices
- Shadowed operations of Chief Financial Officer and accounting team

PERSONAL

World Travel

August 2023 – August 2024

- Circumnavigated the world on personal savings
- Bicycled independently for 1400+ miles across Southeast Asia
- Volunteered in diverse disciplines such as childcare, farming, and education

LEADERSHIP AND SERVICE

Piano Performance and Recording Club

Founder and President

August 2024 – Present

- Initiated a student organization which provides recording and performance resources to the pianist community
- Secured \$1000+ in institutional funding for professional recording equipment

Azul Wasi Orphanage*June 2023 – July 2024*

- Taught Spanish to native Quechua-speaking orphaned students and prepared large group meals

Kad Sala English Camp*February 2024 – March 2024*

- Prepared and led regular English classes with children and adults and produced online educational content

SKILLS

Computer: Deep learning, Cloud Computing, Acumatica, Python, PyTorch, HTML, Microsoft Office (Excel, PowerPoint, Word), Virtual Machines, LaTeX, Video/Audio editing

Language: Proficient in Spanish, Native Proficiency in English

Special: Distance running including regular marathons, Piano performance and composition, Nutritional sciences

AWARDS

- 11th place nationwide out of 2500+ contestants in Skew The Script's 2023 High School Data Science Challenge
- First prize in Music Composition section of the Ithaca High School newspaper 'Literary Issue' two consecutive years.