

# Alejandro X. Alonso

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## EDUCATION

### University of Chicago

Bachelor of Science in Computer Science, Minor in Astrophysics & Astronomy | GPA: 3.72/4.0

Chicago, IL

June 2026

Relevant Highlights: Intro CS I/II, Systems Programming I/II, Theory of Algorithms, Discrete Mathematics, Statistical Methods & Applications, Data Science I, Machine Learning for Computer Systems (Fall '25), Intro to Human-Computer Interaction (Fall '25)

Honors: 35 ACT (36 STEM), 3<sup>rd</sup> Place @ 2024 UChicago Trading Comp., 1<sup>st</sup> Place @ 2023 Citadel X UChicago Trading Challenge

### Stuyvesant High School

New York, NY

## EXPERIENCE

### Morgan Stanley

New York, NY

Software Engineering Intern

June 2024 – August 2024

- Worked with a small, senior team responsible for large-scale technology architecture changes across Institutional Securities Tech
- Built out a suite of automation and data processing tooling through a RESTful API using Python, Flask, MongoDB, and Kerberos
- Designed an object-oriented framework to provide a secure, consistent, and fail-proof method for implementing further tooling
- Devised metrics & visualizations to quantify architecture maturity, department engagement, and other ops. metrics using Python

### East Edge Securities | <https://eastedgesecurities.com>

New York, NY

Co-Founder, Managing Partner

November 2023 – Present

- Founded a 5-figure, value-oriented, risk-controlled investment fund focusing on data analysis alongside two other students
- Developed a public-facing website and an investor portal/portfolio tracker using Python, Flask, React/TS, PostgreS, and Heroku
- Writing a private API streamlining access to account data, simple arbitrage signals, and data processing tooling for macro insights

### Jane Street

New York, NY

JSIP Software Engineering Fellow

June 2023 – August 2023

- In-office 8-week program involving daily lectures & weekly assignments covering functional programming, algorithms, & trading
- Wrote OCaml implementations of traversal, search, & back-tracking algorithms in data scraping & abstract strategy game contexts
- Placed 1<sup>st</sup> in a week-long Jane Street Electronic Trading Competition by developing a trading bot capable of implementing real-time arbitrage trading/converting strategies on bonds, ADRs, and ETFs.

### Paragon Global Investments | <https://paragoninvestments.org>

Chicago, IL

Quantitative Developer

February 2023 – March 2024

- Worked for the systematic arm of a national undergrad investment club sponsored by Jane Street, Citadel, DRW, & IMC Trading
- Improved portfolio variance tracking by ~20% by optimizing a construction algorithm for an example factor construction model
- Minimized divergence risk by ~24% in a pairs trading strategy by implementing sentiment analysis on CloudQuant U.S. news data

### University of Chicago ITS | Network Architecture

Chicago, IL

Student Software Developer

February 2023 – June 2023

- Working with Python, Ansible, and Docker to implement a perfSONAR (pS) framework on 50+ out-of-box & in-use Linux servers

## PERSONAL PROJECTS | <https://github.com/aaworks>

### Traditional Options Pricing for European, American, and Asian Options | <https://global-options-pricing.streamlit.app>

- Implemented traditional Black Scholes, Binomial Tree, and Monte Carlo pricing methods in object-oriented fashion and built a deep q-network using an OpenAI gym and TF-Agents. Wrote a web app to price live and custom options using Polygon.io and YF.

### Web-Based Project Feedback Forum | <https://github.com/aaworks/project-smithy>

- Led a 4-student team to create a web app, database system, and admin dashboard using Python, Flask, SQLite, JS, Bootstrap, and bcrypt password hashing to facilitate project display & feedback. Made for use by a high school class with ~50 students per year.

### Soccer Outcome Prediction Algorithm | <https://sop-bot.streamlit.app/>

- Implemented a TensorFlow/Keras deep neural network, which reached 71.34% test accuracy with minimal overfitting (with seeded weights) displayed on a web app. Wrote scripts to scrape, aggregate, normalize, & regularize match data for three separate leagues.

## TECHNICAL SKILLS

- **Languages:** Python | SQL | C | OCaml | HTML/CSS/SASS | JavaScript | C4 | Linux | Windows | Bash | Git | Ansible
- **Technologies:** Flask | Async | PostgreS | SQLite | MongoDB | Docker | React | Vim | BB Terminal | Microsoft Office | PowerBI

## LEADERSHIP, INVOLVEMENT & INTERESTS

- **Leadership:** BlackGen Capital @ UChicago (Founding Member, VP of Recruitment) | UChicago Booth Financial Markets Program (Member) | Sigma Chi Fraternity (Ex-Social Chair, Treasurer) | AI4ALL (Ex-Chapter & Outreach Lead)
- **Affiliations:** Bridgewater Immersion Program | D.E. Shaw Latitude Fellowship | Sixth Street Insights Fellowship | Ryerson Astronomical Society | ColorStack | SEO Career Edge/Success | La Unidad Latina Foundation (YTT College Access Mentor)
- **Interests:** Soccer, Poker, Lifting, Golf, Table Tennis, Synth/Mixing Music, Philosophy, and Science Fiction Literature