

# Aaron Trelstad

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## EDUCATION

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### Iowa State University, College of Liberal Arts and Science

*Bachelor of Science in Computer Science*

*Bachelor of Science in Mathematics with Applications in Statistics*

## TECHNICAL SKILLS

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Proficient: Python | Familiar: MySQL, HTML/CSS, JavaScript, C++

Frameworks/Tools: Flask, React, Tensorflow, Git

## RELEVANT COURSEWORK AND SKILLS

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**Computer Science:** Intro to Computer Science

**Math:** Multivariable Calculus, Differential Equations

**Statistics:** Introduction to Probability and Statistics

## PROJECTS AND EXPERIENCE

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### Innovate 120 | UX Design Internship

- I worked on the UpHealth team, focusing on improving addiction management using AI to analyze clinical, biometric, and other contextual data.
- Researched and communicated with industry professionals to gather insights about the addiction management process.
- Used Figma to design and prototype user interfaces that prioritized usability and user-friendliness for addiction management solutions.

### Statistical Arbitrage Trading Algorithm | Independent Project

- Developed a Statistical Arbitrage trading algorithm that generates buy or sell signals based on the daily movement of GM and Ford stock prices.
- Conducted backtesting of the algorithm over a 265-day period, resulting in a return of 93.21% compared to -14.567% for Ford and -15.84% for GM during that time.
- Actively trading with the fund for 14 days, achieving a return of 3.51% compared to 2.36% for Ford and 0.09% for GM.
- Utilized **Python** for creating predictive models, conducting statistical analysis, and running the algorithm.

### Personal Website | Independent Project

- Designed and developed a personal website using **JavaScript** and **React.js**.
- Implemented a responsive design that adapts to different screen sizes.
- Incorporated animations using **CSS** and **react-three-fiber** to enhance visual experience.
- Implemented user-friendly navigation and interface.
- Deployed through Github Pages for easy accessibility.

### Notes Website | Independent Project

- Developed a notes website using **Python**, **HTML**, and **Flask**, providing full authorization for users to create accounts, log in and log out.
- Implemented an **SQL** database to store user data.

### Markov Chains and Monte Carlo Simulations on Google Stock | Independent Project

- Utilized **Python** to perform Monte Carlo simulations and visualize future stock movements for Google stock.
- Applied Markov Chains to analyze the probability of future stock movements and identify underlying patterns.

### Fareway Grocery Clerk | Part-Time Employment

- Stock shelves and collect inventory.
- Communicated with customers.