Logan Nitzsche

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[Personal Website](#) | [LinkedIn](#) | [GitHub](#)

Skills

Python, C/C++, JavaScript, TypeScript, PHP, MySQL, React, Next.js, Node.js, Bootstrap, Git, Docker, Google Cloud, Unix/Linux

Education

Master of Science in Computer Science   Expected 12/2025

Southern Illinois University Edwardsville | Edwardsville IL

- **Accelerated Combined Degree Program Participant**: Completing Bachelor's and Master's in 3.5 years

Bachelor of Science in Computer Science   Expected 05/2025

Southern Illinois University Edwardsville | Edwardsville IL

- **Minor in Mathematics**
- **Founder and President**, Machine Intelligence Community

Projects

Official NWA Pinball Website (TypeScript, React, Next.js, Node.js, Google Cloud, Docker)

- Developed and deployed a web application on Google Cloud Run, using Next.js with SSR for SEO and performance
- Engineered a scalable backend with Next.js API routes to handle server-side logic and third-party integrations on a Node.js runtime
- Implemented CI/CD pipelines using Google Cloud Build to automate testing and deployment
- Led agile development sprints, managing tasks via Jira and optimizing performance with k6 load testing

Cloud-Based Event Management System (PHP, JavaScript, MySQL, Google Cloud, Docker, Bootstrap)

- Developed an event tracking system on Google Cloud Run with Google Cloud SQL, implementing CI/CD pipelines for continuous integration and deployment
- Implemented full CRUD functionality with an admin view for user and event management
- Secured authentication and user security with encrypted password storage and access control mechanisms

Algorithmic Trading Framework (Python, Apache Spark, Scikit-Learn, Pandas, Matplotlib)

- Developed a scalable framework with PySpark MLlib for large-scale data and Scikit-Learn for in-memory modeling
- Implemented machine learning models (Decision Tree, Linear Regression, Random Forest, and SVM) to power prediction-based trading strategies (Mean Reversion, Moving Average Crossover, RSI Overbought/Oversold, and Threshold-Based Momentum) with JSON parsing for configurable parameters
- Retrieved historical market data using the Yahoo Finance API and visualized trade performance and market trends with Matplotlib

X Automation System (Python, X API, macOS)

- Engineered a social media automation system managing multiple X (Twitter) accounts via API key switching
- Utilized macOS process management to keep automation running persistently, even after terminal closure or system sleep

Automated News Aggregator and AI Summarizer (Python, BeautifulSoup, Requests, OpenAI API)

- Developed an automated web scraper using BeautifulSoup and Requests to extract and parse data from HTML and XML pages
- Integrated the OpenAI API to generate concise, informative articles based on extracted data

Word Analysis and Search Tool (JavaScript, Bootstrap)

- Developed a spell-checking and word analysis tool on Github Pages with automatic deployment, managing 460K+ words and integrating 2.3M+ external resources, including dictionaries, thesauruses, Google Trends, and RhymeZone

Experience

Graduate Teaching Assistant   08/2024 - Present

Southern Illinois University Edwardsville | Edwardsville, IL

- CS 456: Analysis of Algorithms
- CS 590: Digital Image Processing

Undergraduate Research Assistant   07/2023 – 05/2024

Southern Illinois University Edwardsville | Edwardsville, IL

- Developed and deployed an interactive corn growth simulation on GitHub Pages, leveraging JavaScript, HTML, and CSS for dynamic visualization