

Alexander Smyth

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Education

Northeastern University Boston, MA

September 2019 – Expected December 2022

- Candidate for a BS in Computer Science and Mathematics
- GPA: 3.95 / 4.00
- Relevant Coursework: *Software Development, Object-Oriented Design, Database Design, Algorithms and Data, Networks and Distributed Systems, Probability and Statistics, Differential Equations and Linear Algebra*
- Peer Tutor for CS and Math, Competitive Programming Club

Experience

Amazon (AWS) – Software Development Engineer Intern Boston, MA

May 2022 – August 2022

- Designed and implemented an indexing system for real-time IoT device uplink events in Java using Elasticsearch as part of the IoT Fleet Indexing team.
- Expanded support for customers to index and search device metadata to millions of LoRaWAN IoT devices.

AngelList – Software Engineering Co-op San Francisco, CA

January 2022 – April 2022

- Built infrastructure and data pipelines to track investor portfolio value over time as part of the AngelList Venture Fund Infrastructure team.
- Created a reporting system in Ruby on Rails that computes and records the causes of all fund value fluctuations in real time, improving the investor experience and saving hundreds of hours for operations teams.

Wayfair – Software Engineering Co-op Boston, MA

January 2021 – June 2021

- Built the email notifications system for the Wayfair Sponsored Shops supplier advertisement tool using PHP and React, improving the self-service workflow for thousands of suppliers.
- Redesigned SQL Server stored procedure to increase the number of suppliers eligible to use the tool by 30%.
- Identified and resolved several critical bugs before general availability, allowing for a successful launch.

Projects

Debate Rankings Website <https://www.debate-rankings.com>

- Created a high school debate rankings website based on the Elo ranking system.
- Deployed the Express backend and React frontend on an AWS Lightsail VPS.
- Wrote an automated data collection procedure using Python and Cypress.

Chess Engine

- Implemented a fully functional user interface and chess engine in Java.
- Utilized a minimax framework with optimizations including alpha-beta pruning and iterative deepening.

RPG Economy Trading

- Gathered real-time in-game market prices using screen reading in Python to compare to historical data from the API of MMORPG Albion Online.
- Designed an algorithm to identify and execute profitable arbitrage trades in the player-based economy.

Skills

- **Languages:** Java, Python, JavaScript, TypeScript, Ruby, SQL, PHP, HTML, CSS, Racket
- **Frameworks and Libraries:** React, Ruby on Rails, Cypress, GraphQL, Apache Airflow
- **Tools:** Git, Datadog, Kibana, DynamoDB, Amazon EC2, Amazon S3