

# Alexander L Chen

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## EDUCATION

### Northeastern University, Khoury College of Computer Science

Boston, MA

*Candidate for Bachelor of Science in Data Science, Minor in Mathematics*

Sep 2022 – May 2026

*Relevant Course Work:* Database Design, Probability and Statistics, Discrete Structures, Programming with Data(I, II, Advanced) GPA: 3.8 / 4.0

*Awards and Activities:* Deans List (All Semesters), Lion and Dragon Dancing, Running Club

## WORK EXPERIENCE

### Northeastern University, Khoury College

Boston, MA

*DS2500 Teaching Assistant*

Jan 2024 – Present

- Conduct biweekly office hours to provide support and assistance to over 300 students, ensuring academic success and engagement.
- Collaborate with course instructor to develop and refine course materials and assignments, ensuring alignment with learning objectives.
- Engineered and deployed auto graders in Python for 6 homework assignments and 5 lab exercises, resulting in time saving of 100 hours.
- Facilitated weekly labs and provide direct mentorship to enhance students' practical proficiency in data analysis and visualization.

### Camp Kesem Boston University

Boston, MA

*Development Coordinator*

Sep 2023 - Present

- Coordinate a team of 100+ student leaders, overseeing their efforts in fundraising and spreading awareness campaigns.
- Achieved a 24% increase in funds raised and a 30% expansion in campaign reach compared to previous years efforts.
- Develop and implement comprehensive strategic plans to secure funding and achieve a \$55,000 target for Camp Kesem Programs.
- Served as a counselor for a weeklong sleep away camp dedicated to supporting kids whose parents have cancer.

### Northeastern University, Sherman Forge

Boston, MA

*Financial Analyst*

Sep 2023 – Dec 2023

- Monitored budget and monthly project charges for 4 distinct product teams leading to the successful delivery of 4 final stage products.
- Conducted financial forecasting and variance analysis to provide insights into project performance to support future budget planning.
- Administered a \$4,000 budget, ensuring optimal allocation of resources and financial sustainability across multiple project streams.
- Implemented and optimized a suite of automated solutions, reducing processing times of purchasing and reimbursement process by 30%

## PERSONAL PROJECTS

### Finding FishE

Boston, MA

*Flask, Python, React, Tailwind CSS, Javascript, Supabase,*

Feb 2024

- Integrated front with Flask to create a user-friendly interact that allows seamless uploading and parsing of photos and documents.
- Implemented NLP algorithms capable of interpreting complex policy text, resulting in an automated system that scores receipt data.
- Competed against 35+ other teams, and won the DEI award for helping small businesses at Hack Beanpot 2024.

### F1 Outcome Forecasting

Boston, MA

*Python, Pytorch, Numpy, Pandas*

Dec 2023

- Engineered impactful features from raw race data, incorporating driver statistics, team dynamics and circuit characteristics.
- Implemented and finetuned various ML algorithms, including lasso regression, random forest regression, and decision trees.
- Achieved a notable 16.15% decrease in the mean square error compared to baseline model.

### Battleship

Boston, MA

*C++, Miniaudio, Matplotlibplus*

Dec 2023

- Created a C++ terminal-based implementation of battleship utilizing dynamically allocated memory with an algorithm-based CPU player.
- Utilized matplotlibplus and miniaudio libraries to enhance project functionality through data visualizations and sound effects.
- Developed a debugging mode that allowed the coder to explore and optimize CPU gameplay based on their needs.

### NLP Library

Boston, MA

*Python, CSV, Plotly, NLTK*

Dec 2023

- Designed and implemented data preprocessing pipelines to cleanse and prepare textual data for analysis and modeling.
- Utilized machine learning algorithms such as Naïve Bayes, SVM and LSTM to build predictive models for sentiment analysis tasks.
- Successfully processed over 10,000 text documents and generated 100 relevant visualizations.

### Sports Betting Arbitrage

Millburn, NJ

*Python, Pandas, websocket, Selenium*

May 2023 - Aug 2023

- Utilized Python and web sockets for automated web scraping, enabling the discovery and storage of non-directional trades in SQL.
- Conducted thorough risk analysis using Monte Carlo simulations and scenario planning to mitigate potential losses and maximize profits.
- Identified 76 arbitrage opportunities with returns ranging from 1% to 6% cumulatively adding 3.5% to the portfolio's performance.
- Implemented algorithms to automate the identification of successful arbitrage opportunities.

## SKILLS AND INTERESTS

Languages: *Proficient:* Python, R, C++, CMake SQL *Familiar:* Java, HTML, CSS

Tech: TensorFlow, Pandas, NumPy, Scikit-learn, Matplotlib, Altair

Tools: Git/Github, Sequel Pro/Lite, CLion, Spyder, Pycharm, Docker, VSCode, Excel, Google Suite

Interests: Baseball, Film Photography, Wordle, Chess, Backpacking (AMT, Grafton Notch)