

Liam Lawless

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EDUCATION

Northeastern University

Boston, MA

Khoury College of Computer Sciences

December 2025

Candidate for a Bachelor of Science in Computer Science

Relevant Courses: Algorithms & Data Structures, Object-Oriented Design, Database Design, Computer Systems, Cybersecurity, Machine Learning & Data Mining, Artificial Intelligence, Engineering LLM Systems, Software Engineering

TECHNICAL SKILLS

Languages: Expert in Python, Proficient in TypeScript, JavaScript, Java, SQL, HTML, CSS, C, x86 Assembly Language

Systems: macOS, Ubuntu Linux, Windows

Applications: Git, React, Visual Studio Code, MongoDB, Postman, Microsoft Office Suite

WORK EXPERIENCE

MORSE Corp

Cambridge, MA

Data Science Co-op

January 2024 – June 2024

- Developed, executed, and tested Machine Learning models for target tracking and overhead imagery analysis
- Collaborated with cross-functional teams to define, design, and ship new features for the United States DoD
- Performed data analysis tasks, including developing performance metrics, analyzing the impact of different metadata characteristics on model performance, and building tools to simulate model outputs for operator experiments
- Designed and built analysis and application software using Python
- Conducted statistical analyses and created data visualizations for client and internal presentations

Vision Technologies

Glen Burnie, MD | Washington, D.C.

Software Development Intern

June 2022 – November 2022

- Developed software, ensured quality assurance, managed data, and assisted with on-site installations
- Created a software prototype leveraging OpenCV facial recognition with a 360-degree conference camera to keep the speaker centered in the frame
- Upgraded telecom and audiovisual infrastructure at the U.S. Senate Office Buildings and FDIC Arlington office
- Engaged in weekly team programming meetings to effectively communicate performance and project progression

PROJECTS

Fitness Analysis Tool

August 2024 – Present

- Developed a data-driven fitness web application using React, Typescript, CSS, and Firebase for in-depth data analysis
- Designed and implemented comprehensive visualizations of heartrate variability, power output, and cadence using D3.js, enabling users to explore detailed insights into their cycling and running fitness performance
- Built an intuitive, responsive front-end with Chakra UI, ensuring seamless navigation and an appealing experience

AI Natural Selection Simulator

September 2023 – December 2023

- Created a generational simulation to visualize the evolution of traits in an agent-based environment
- Implemented a Q-learning model, effectively training agents using TensorFlow and Keras to iteratively run through thousands of episodes, optimizing agent decision making based on a state-action space
- Visualized results of each simulation with a suite of Matplotlib graphs to measure program performance

Command Line Shell

February 2023 – May 2023

- Collaborated with team members to plan, prototype, and design a functional Unix shell in the C language
- Developed and optimized features with a focus on scalability and extensibility, utilizing modular code

Image Manipulator

May 2022 – July 2022

- Created an image processing application in Java with MVC architecture guided by the agile development cycle
- Conducted extensive unit testing to ensure seamless functionality of image loading and alteration functions

INTERESTS

Clubs: Northeastern Systematic Alpha Quantitative Finance Club, Phi Delta Theta

Volunteer work: The ALS Association, Interscholastic Sailing Association, US Sailing

Interests: Northeastern Sailing Team, Cycling Road racing, Weightlifting, Rowing, Cooking, Ice hockey, Golf