Harry Lynch

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EDUCATION

Tufts University   **Medford, MA**
Bachelor of Science in Computer Science, Minors in Finance and Mathematics   *May 2027*
- **Cumulative GPA:** 3.8/4.0 | **Major GPA:** 3.9/4.0
- **Relevant Coursework:** Data Structures, Artificial Intelligence, Linear Algebra, Multivariable Calculus, Database Systems

The Lawrenceville School   **Lawrenceville, NJ**
Secondary Education   *Graduated June 2023*

PROFESSIONAL EXPERIENCE

Crum and Forster   **Morristown, NJ**
Data Science / Software Engineering Intern   *May 2025 – Present*
- Eliminated manual data handling by building production-grade **ETL pipelines** in Python to ingest convoluted Excel files, apply rule-based cleaning, and load **50k+ rows** monthly into **Microsoft SQL Server** with **T-SQL stored procedures**
- Re-engineered a **statutory government filing model** (previously a six-sheet Excel + copy/paste workflow) with a 6-parameter Python CLI script that runs product-specific calculations and produces a submission-ready workbook in **< 10 seconds** (down from an hour or longer).
- Designed a RESTful API endpoint layer with **C#/ASP.NET Core & Entity Framework** to supplement internal dashboards

Launch (Startup)   **Medford, MA**
Full Stack Software Development Intern   *January 2025 – May 2025*
- Designed and implemented a multi-database ERD to store company and product data with **Postgres and MongoDB**.
- Developed and trained a **custom AI agent** to generate a website based on scraped data from existing social media profiles.
- Created an interface for end-users to customize generated websites (dragging and dropping website components, etc).

Airtight Storage Systems Inc.   **Manalapan, NJ**
Freelance Software Development   *May 2024 – October 2024*
- **Single-handedly** designed, developed, and maintained a full-stack web app for internal inventory and sale management.
- Implemented industry-specific invoice generation, transport documents, and bespoke internal communication software.

TECHNICAL SKILLS & PROJECTS

Languages: C++, C#, C, Python, SQL, TypeScript, JavaScript, x86 Assembly Language
Frameworks & Tools: Amazon Web Services, Azure DevOps, Pandas, NumPy, React, PostgreSQL, Git, Docker, UNIX
Spoken Languages: English (native), Spanish (conversational)

Shipping Container Internal Inventory Software · *JavaScript / SQL (React, Node, Express, AWS)* · Source Code
- Shipped a multi-tenant inventory platform tracking **500+ containers/month** and cutting manual documentation time by **65%**.
- Implemented **JWT** authentication, a permission-based account system, automated client emails, and industry-focused tools.
- Website hosted and maintained live on **AWS** (EC2 & S3) for day-to-day internal corporate use.

Naïve Bayesian Radar-Trace Classifier · *Python (NumPy, Pandas, scikit-learn)* · Source Code
- Designed a multivariate **Naïve Bayes model** to algorithmically classify an object as either a bird or an aircraft using velocity-time data.
- Engineered temporal and statistical features in **NumPy/Pandas** and automated 60/20/20 train-validation-test splits, reaching 96% accuracy and a 0.93F1 score on 10,000 unseen data points.

Universal-Machine Emulator · *C*
- Implemented a complete emulator for the 14-instruction Universal Machine architecture, including loader, segmented memory manager, and **register-based ALU**. Profiled to run at a speed of ~9 billion instructions per second.
- Emulated the UM's 32-bit segmented memory model on a 64-bit host with an index/offset system using pointer arithmetic

LEADERSHIP & ACTIVITIES

Engineers Without Borders   **Medford, MA**
Software Developer   *September 2024 – Present*
- Collaborated with a team of developers on a web-based project-management system to organize large humanitarian efforts.
- Plans to scale to the hundreds of EWB chapters at other universities, supporting operations in developing countries.

Tufts Varsity Football   **Medford, MA**
Player – Defensive Line   *August 2023 – May 2024*
- Practiced and competed as an NCAA varsity athlete.

Tufts Torn Ticket II   **Medford, MA**
Stage Manager, Pit Guitar Player, Actor   *August 2023 – Present*
- Facilitated production of a mainstage musical, managing 40 cast and crew members. Scheduled and ran rehearsals.

General Interests: Guitar, Welding, Football, Theatre, Pickleball, Chess.