Harrison Ryan Seeley

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Education

Northeastern University, Boston MA December 2025
Bachelor of Science in Computer Engineering and Computer Science GPA: 3.93
Courses: Software Engineering, Natural Language Processing, Object-Oriented Design, Computer Systems, Database Design, Fundamentals of Networks, Computer Architecture, Foundations of Data Science, Algorithms, Logic and Computation
Activities: Club Squash Vice President

Technological Skills

Programming Languages: C, C++, C#, Java, Python, JavaScript, TypeScript, HTML, CSS, SQL, Windows PowerShell, Bash, MATLAB
OS, Middleware, Frameworks: Linux (Ubuntu), Windows, Node.js, Express.js, React.js, RabbitMQ, ZMQ,
Other: PostgreSQL, MySQL, Postman, Microsoft Azure, Amazon EC2, ServiceNOW, Microsoft Kinect SDK, PCL Library, Nuitka, Git

Relevant Experience

Delsys, Natick MA January 2025 – June 2025
Backend Software Engineering Co-op https://harrisonseeley.com/delsys.html

- Developed a Linux distributed system application in C++ and Python by extending existing architecture and adding new processes.
- Used ZMQ publish/subscribe and request/reply messaging for system communication.
- Applied computer vision techniques to generate real-time point clouds of a human performing musculoskeletal exercises.
- Leveraged machine learning body tracking algorithms to estimate human joint positions and provide real time clinical feedback.
- Implemented a deployment pipeline using Nuitka, Dpkg, and bash scripts to install the system as a user-friendly application.

Symbotic, Wilmington MA May 2024 – August 2024
Software Engineering Internship https://harrisonseeley.com/symbotic.html

- Implemented a tool in C#/.NET that takes millions of system logs, finds specific information relevant to the user, and exports the results to easy-to-read reports that reduces **hours** of tedious file searching to mere **seconds**.
- Patched bugs/issues in the system software involving the concurrent interactions of multiple services.
- Studied the asynchronous messaging between services using RabbitMQ.

Charles River Development, Burlington MA January 2023 - June 2023
End User Services Information Technology Co-op https://harrisonseeley.com/crd.html

- Created a custom workflow using ServiceNOW and JavaScript to automatically create tickets for new hires and terminations.
- Supported employee hardware such as laptops, servers, printers, peripherals, and other company issued devices.
- Administrator for employee accounts, mitigated access to resources such as servers, local software, websites, etc.
- Wrote PowerShell scripts to automate administrative tasks including locking inactive accounts, finding user locations, and more.

Student Employment

Northeastern University, Boston MA January 2024 – Present
Teaching Assistant for Fundamentals of Computer Science 2 https://harrisonseeley.com/ta.html

- Hold office hours for students to ask questions about homework, exams, and other course content.
- Lead coding labs: give mini lectures, run through practice problems with the students, and administer quizzes.
- Grade homework, quizzes, and exams by checking for accuracy, coding conventions, and strong uses of course design principles.

Technical Projects

For more details on projects, visit https://harrisonseeley.com/projects.html

Northeastern SquashHub (*www.neusquashhub.com***)** Summer - Fall 2025

- Built a full stack web application to manage Northeastern Club Squash's practices, rosters, schedule, and administrative tasks.
- Maintained as an open-source codebase; personally responsible for ticket management, code reviews, and merging pull requests.
- Architecture includes a React.js frontend, Node.js with Express.js API gateway, and PostgreSQL persistent storage.
- Deployed with Amazon EC2 with cloud email integration for automatic email services, handles approximately 35 DAUs.
- Supports multiple teams (men, women, etc.) with guest, normal, and admin accounts featuring one way password encryption.
- Implements a service to manage team attendance and incorporates an admin portal to easily add/mutate team data.

Filesystem Fall 2024

- Built a Linux filesystem in C to manage small (4KB) files. Used FUSE to develop in user space and avoid modifying the kernel.
- Implemented inodes, inode tables, bitmaps, and block partitioning to manage data across a 1MB hard drive.

NUPlanner Spring 2024

- Designed a Java application to help users manage their weekly schedule. Application follows SOLID software design principles.
- Can create, modify, remove, and auto schedule events with other users. Mutations occur simultaneously across many schedules.
- The user interacts with the application using a loosely coupled GUI designed in Java Swing.