

Christopher Pyle

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EDUCATION

Northeastern University

Boston, MA

BS in Computer Science and Mathematics - GPA: 3.97

Graduation: May 2027

- **Relevant Courses:** Object Oriented Design, Algorithms and Data, Intro to Databases, Accelerated Fundamentals of Computer Science 1 & 2, Linear Algebra, Differential Equations, Calculus 3, Probability & Statistics
- **Organizations:** Northeastern Electric Racing (Head), Northeastern Alpine Ski Team (treasurer), Delta Kappa Epsilon (Scholarship Chair), Game Theory Association, Knack Tutor, Elite Heat

TECHNICAL SKILLS

Languages: Java, JavaScript, Typescript, Python, Rust, C++, SQL, HTML, CSS, Racket

Technologies: Git, Docker, Node, Prisma, React, NextJS, Express, REST API, Svelte, PouchDB, Flask, OAuth 2.0

EXPERIENCE

Unicode

August 2022 - Present

Full Stack Developer - Volunteer

Virtual

- Developed backend for the Adopt A Character site in Svelte, involving schema design, payment processing, and integration with internal and external databases. Generated \$40,000 in revenue in the first 2.5 months of deployment
- Designed backend flow with PouchDB / Typescript to check availability, process, and update adoptions. Integrated with stripe payment and external accounting tool API & Webhook. Setup up Github Actions CI/CD pipeline
- Created Admin page to increase scalability, reducing manual work from 20 to < 5 minutes per adoption. Automated social media posts & sending thank you emails, allows users to toggle public visibility of each adoption
- Created tool to verify consistency and reconcile differences of data between database and external accounting tool
- Facilitated conversion of CLDR site with 130+ pages into a customizable static site, automating majority of conversion with Python. Directly increased readability and speed of documentation site for users

Northeastern Electric Racing

January 2024 - Present

Head of Web Development

Boston, MA

- Manage all development and technical operations on a custom project management site serving 400+ club members, overseeing deployments on AWS & Netlify, codebase architecture, and feature roadmap execution
- Lead 9 tech leads and 60+ developers to implement multiple concurrent features each semester. Run weekly meetings, perform code reviews, provide technical help, and teach web dev onboarding class for 30+ novice developers
- Dockerized development environment to standardize build and reduce environment inconsistencies
- Integrated web application with slack API to process, store, and display 100+ slack messages/day to appropriate users
- Implemented a file review system where users can upload, view, markup, and approve drawings for CAD parts. Involved database schema design using Prisma & SQL, and frontend to display, zoom, pan, and markup files in React
- Customized homepage for different user levels to display relevant content to each user in React
- Optimized database performance through indexing and reducing unnecessary joins, up to 5x faster page load times

Northeastern Khoury College

August 2024 - May 2025

Accelerated Fundamentals of Computer Science 1 & 2 Teaching Assistant

Boston, MA

- Empowered 40+ students in the design recipe and object oriented principles through Java and Racket
- Led review sessions and labs to teach computer science concepts, provided constructive technical feedback on assignments, and performed code walks to give students experience verbally navigating their code decisions

PROJECTS

Alpine Skiing Image Processor | Python, Computer Vision, UI Development

January 2025

- Trained computer vision model on custom dataset to automatically recognize bib numbers of ski racers in photos
- Developed user interface for bulk processing, allows confirmation of bib numbers and photo deletion
- Implemented automatic photo sorting with designated file structure by team and bib number
- Generated \$600+ in revenue during 2024/25 season by streamlining photo processing and online sales workflow

Image Seam Carver | Java, Image Processing, Data Structures

March 2024

- Implemented seam carving algorithm in Java to compress images both horizontally and vertically
- Represented images as 2D deque data structure for efficient seam removals in both directions
- Built visualization features to display seam removal process step-by-step and re-insert removed seams
- Added optional greyscale display of pixel energies and weights for algorithm transparency

Time Series ML Model for Store Sales Prediction | Python, Machine Learning, Data Analysis

May 2023

- Collaborated in team of 3 to develop machine learning model predicting store sales across Ecuador retailers
- Achieved top 8% ranking out of 603 entries in competitive machine learning challenge
- Performed comprehensive data cleaning with various encoding techniques for optimal model performance
- Enhanced model accuracy through trend and seasonality analysis using Fourier Features

ADDITIONAL INFORMATION

Interests: Skiing | Ski Racing | Mountain Biking | Rock Climbing | Hiking | Car Racing | Weightlifting | Cooking

Accolades: Deans List all semesters | Red Cross CPR & First Aid | Bill Taylor Essay Contest Winner | Cum Laude