shen.ra@northeastern.edu linkedin/in/shen-ray

# Ray Shen

ray-shen.me github.com/rayyshen

## **EDUCATION**

## Northeastern University

Boston, MA

B.S. in Computer Science, GPA: 4.0/4.0

May 2025 - May 2029

o Coursework: Discrete Structures, Introduction to Mathematical Reasoning, Program Design and Implementation

## WORK EXPERIENCE

#### Northeastern Student Government Association

Boston, MA

Software Engineer

Sep 2025

• Migrating SGA website from Squarespace to React, representing over 38,000 students.

Eduruna Woodbridge, VA

Dope Digital Fellow

June 2024 - Aug 2024

- Led a team of 7 fellows to successfully build and enhance a local non-profits online web presence.
- $\circ$  Managed project timelines and client communications to ensure 100% of deliverables were completed on schedule.
- Contributed to front-end design and development, increasing the nonprofit's online engagement by 400%.

## Projects

- Plant NUACM Hackathon Education Track Winner: Developed a comprehensive Next.js web application that helps Northeastern University students plan their academic journey using AI-powered course recommendations, real-time requirement tracking, and intelligent semester planning. Built with React 19, TypeScript, Firebase authentication, and Google Gemini AI integration, featuring drag-and-drop course scheduling, PDF transcript processing, and difficulty-balanced workload management for 87,000+ courses. Implemented a full-stack solution with Python web scraping for course data extraction, Firestore database management, and a responsive UI.
- RedBot NYC AI Agents Hackathon, Sponsor Track Winner: Developed an intelligent red-teaming platform that automatically tests chatbot endpoints for security vulnerabilities using 140+ attack methods including prompt injection, PII leakage, and system prompt extraction. Built with Python/Streamlit, the system orchestrates comprehensive security assessments through OpenHands agent framework, analyzes responses with pattern matching algorithms, and generates prescriptive remediation plans with cost estimates and acceptance tests. Integrated ClickHouse for analytics, DeepL for multi-language translation, and Linkup for real-time web data enrichment, delivering automated vulnerability detection and remediation recommendations for AI chatbot security.
- EcoJustice Hack the Nest 2025, Grand Prize Winner: EcoJustice is a full-stack web application that visualizes environmental racism across the United States by integrating data from the EPA, CDC, and Census Bureau into an interactive mapping platform. Built with Next.js, React, and Google Maps API, the application displays Social Vulnerability Index scores, demographic data, and industrial facility locations to help users identify environmental justice disparities in their communities. The platform includes an AI-powered letter generator using Google's Generative AI to help users create personalized advocacy letters for contacting local representatives.
- Cider HackTJ 11.0, Best Lifestyle Hack: Cider is an AI-powered calendar event generator that analyzes documents and text to automatically extract event details (titles, dates, locations, attendees) and creates downloadable .ICS calendar files. Built with Next.js, TypeScript, and OpenAI's GPT-3.5 API, the application features real-time streaming responses and integrates Google Maps Places API for location enrichment. This project won the Best Lifestyle Hack category at HackTJ 11.0 and demonstrates full-stack development skills including AI integration, PDF parsing, and modern React/TypeScript architecture.

## VOLUNTEER EXPERIENCE

Prometheus Remote

Pro Bono Fullstack Engineer

Oct 2025

• Pro Bono Fullstack Engineer for nonprofit focused on providing services for survivors of domestic violence.

### SKILLS

Languages: Java, Typescript, Javascript, Python, HTML, CSS

Technologies: Git, Linux, REST APIs, Tailwind CSS, React, Node.js, Express, Next.js, Supabase, Vercel