Rayna Yu

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EDUCATION

Northeastern University — Boston, MA
B.S in Computer Science and Mathematics — May 2028
GPA: 4.0/4.0 | Honors: Dean's List, Dean's Scholarship
Relevant Coursework: Object-oriented design, Algorithms (Graduate-level), Artificial Intelligence, Theory of Computation, Matrix Methods in Data Analysis and Machine Learning, Linear Algebra, Probability and Statistics

SKILLS

Languages: Java, Python, MATLAB, JavaScript, TypeScript, SQL, HTML/CSS
Frameworks: React, Node.js, FastAPI, PgAdmin 4, NumPy, Scikit-learn, Pandas, Matplotlib, Turf.js, TensorFlow, OCaml
Tools & Technologies: Git/Github, Visual Studio Code, Intellij, Eclipse IDE, Linux

EXPERIENCE

Code 4 Community — January 2025 - Present
Software Developer — Boston, MA
- Developed full-stack applications for nonprofits (GI Boston, Securing Safe Food, NEFAC, ect.), converting requirements into functional sites using **React**, **Node.js**, and **PostgreSQL**, improving data accessibility and operational efficiency
- Collaborated in a 7-person Agile team to streamline backend operations for a recruitment portal, implementing database optimizations with **pgAdmin 4**, and contributing through sprint planning, **Git/GitHub** workflows, and peer code reviews

Teuscher Lab — May 2025 - August 2025
Software Engineer and Researcher — Remote
- Developed a **React Native** mobile navigation app in **TypeScript**, integrating multi-source **GeoJSON** datasets, **Turf.js, OpenRouteService API**, and **FastAPI** backend to optimize routes by detecting pedestrian-specific hazards
- Implemented and evaluated multiple machine learning models to predict vehicle-pedestrian crashes using **Scikit-learn**, **Pandas**, **NumPy**, and **Matplotlib**, selecting **Random Forest** as the top-performing model with 94% accuracy
- Published and presented paper as the leading author (paper available upon request)

Northeastern University; Computer science department — May 2025 - Present
Teaching assistant, CS 2800: Logic and Computation and CS1800: Discrete Structures — Boston, MA
- Supported 100+ students in CS 2800 & CS 1800, covering propositional/first-order logic, code specification, set theory, data structures, and discrete mathematics using **Python** and **OCaml**
- Led weekly recitations and office hours, mentoring students in formal reasoning, proofs, and computational logic

RISD Museum — September 2022 - June 2024
Museum Curator — Providence, RI
- Partnered with a team of 12 peers to design and author the first fully teen-led exhibit, *Listen!*
- Coordinated with museum staff and interviewed artists to translate complex societal themes into engaging and accessible experiences, drawing over 5,000 visitors in its first week
- Exhibit link: https://risdmuseum.org/exhibitions-events/exhibitions/listen

PROJECT EXPERIENCE

Robot Path Planner - Matlab — July 2025 - present
Software Engineer
- Designed a 2D robot path planner combining Dijkstra and reinforcement learning for collision free navigation

Calendar Application - Java, GUI, Swing — May 2025 - June 2025
Java Developer
- Architected a modular calendar application in Java using OOP and OOD principles within a MVC framework

Nim Sum Player – Python, adapted to HTML/JavaScript — October 2024, August 2025
Programmer
- Implemented a game-playing agent for the Nim game using XOR and binary for a mathematically optimal performance

VOLUNTEER EXPERIENCE

Animal Rescue League of Boston — August 2023 – Present
Shelter Support — Boston, MA
- Assist with animal care for 50+ cats and contribute to team efforts to improve animal welfare by evaluating animal behavior