

Ryan Zhao

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EDUCATION

Emory University

B.A. in Computer Science

Atlanta, GA

August 2021 – May 2024

- Courses: Data Structures and Algorithms, Database Systems, Artificial Intelligence, Machine Learning, Linear Algebra, Discrete Mathematics, Algorithm Analysis, Operating Systems, Machine Learning Applications

University of Washington

Seattle, WA

September 2020 - June 2021

WORK EXPERIENCE

Expedia Group

Software Development Engineer Intern

Seattle, WA

May 2023 – July 2023

- Developed and deployed an automated waiver processing tool for Expedia Marketplace Insights, slashing processing time from 3-5 days to just 1 day, resulting in over 10 hours of weekly saved manual engineering effort.
- Leveraged React for front-end design and Java for backend API development with Okta authentication integration, enabling multi-waiver uploads and tracking.
- Achieved 93% code coverage through rigorous unit testing, ensuring high code quality and reliability.
- Implemented error handling and data validation protocols, reducing processing error by 98% and maintaining data integrity.

PROJECTS

Mpox Recommender System

March 2024 – May 2024

- Developed an Artificial Neural Network (ANN) in Python using TensorFlow and scikit-learn to analyze symptoms and recommend MPox testing, achieving a model accuracy of 67.6%.
- Preprocessed a dataset of 25,000 anonymized patient records designed the ANN architecture with two hidden layers, utilizing the rectifier activation function, and optimized hyperparameters including 100 epochs and a batch size of 32.
- Created a user-friendly interface for inputting symptoms, ensuring robust handling of varied user inputs and providing accurate testing recommendations.

Brain Tumor Image Detection

March 2024 – May 2024

- Developed an image processing algorithm in Python using OpenCV for detecting brain tumors through techniques like edge detection, image segmentation, and clustering.
- Implemented edge detection and image interpolation to identify and isolate tumor regions within brain scan images.
- Applied k-means++ clustering to distinguish between normal and tumor regions, ensuring precise classification in the processed images.

SwooperMarket

August 2023 – December 2023

- Built SwooperMarket, a full-stack marketplace web app using React, Next.js, and Vercel, collaborating with 5 students to facilitate easy buy-and-sell interactions within the university.
- Enhanced SwooperMarket's user profiles with customizable fields and avatars, leading to a 40% increase in user profile completion rate within the first 3 months of deployment and streamlining user onboarding process.
- Showcased SwooperMarket to over 200 Emory students and faculty, generating positive feedback and attracting 30 new users.

SKILLS

Programming Languages: Java, Python, C, JavaScript, Typescript, SQL (MySQL, PostgreSQL)

Tools: Git, Node.js, AWS, Jenkins, REST APIs, Jira, Vercel, TensorFlow

Frameworks: React, Next.js, Spring Boot, D3.js