

Ryan Liu

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EDUCATION

Northwestern University

B.S Computer Science and Mathematics

GPA: 4.00/4.00

Evanston, IL

2023-2026

EXPERIENCE

Full-Stack Software Engineer, Head of Analytics

June 2024 – Present

Juxta Technologies

Chicago, IL

- Led the development of analytics-driven logistics tools for a \$6M health-tech startup backed by \$600K in venture funding from Lynett Capital and Authentic Ventures, improving hospital efficiency and reducing operational costs
- Developed algorithms to minimize idle time, optimize task assignment, and streamline workflows using Python, JavaScript, and Firebase, boosting patient transporter efficiency by 44% and reducing transport times by 7.6 minutes per trip

Research Assistant

January 2024 – Present

Northwestern AI and Security Lab

Chicago, IL

- Applied machine learning to predict time-to-exploitation and severity of Cybersecurity Vulnerabilities and Exposures
- Built CVE data pipelines from diverse datasets, leveraging APIs, web scraping, and data integration techniques
- Developed Northwestern Cybersecurity Early Warning System with Next.js and React to visualize CVE trends and risks

Information Technology Intern

October 2023 – August 2024

International Center for Advanced Internet Research

Chicago, IL

- Used machine learning to optimize Data Transfer Nodes (DTNs) with NVMeoF, achieving 400GB/s throughput
- Implemented a JupyterHub-based controller to detect DDoS attacks in real time using Sketch-based Entropy Estimation
- Deployed Python and Bash scripts to monitor network traffic, identify anomalies, and estimate the likelihood of attacks

Undergraduate Teaching Assistant

September 2024 – Present

Northwestern University

Chicago, IL

- Held weekly office hours to assist 100+ students in mastering discrete math concepts and problem-solving techniques
- Recognized by students as an exceptional and approachable TA, frequently cited as a favorite among peers

AWARDS

ICPC North America Championship Qualifier *ACM-ICPC*

2024

American Invitational Mathematics Exam (Top 800 of 300,000) *Mathematical Association of America*

2022, 2023

USA Computing Olympiad Gold Division *USA Computing Olympiad*

2022

ADDITIONAL

Programming Languages and Tools: Python, C++, Go, Rust, JavaScript, TypeScript, Java, SQL, MATLAB, R, Bash, HTML, Git, GitHub Actions, Docker, Google Cloud Platform, AWS, Jupyter, NVMe CLI, PostgreSQL, MongoDB, Redis
Frameworks, Libraries, and APIs: React, Next.js, Vue.js, TailwindCSS, Node.js, NumPy, Matplotlib, PyTorch, Pandas, TensorFlow, scikit-learn, OpenCV, REST APIs, GraphQL

Relevant Coursework: Machine Learning, Data Structures, Design and Analysis of Algorithms, Operating Systems, C/C++, Scalable Software Architectures, Computer System Security, Linear Algebra, Probability and Statistics, Real Analysis