

# Hanna Jiang

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## Education

### University of Massachusetts Amherst

MS in Computer Science

Expected: Dec. 2025

- GPA: 4.00/4.00
- Awards: Baystate Scholar 100% tuition waiver, Graduate Teaching Assistant.
- Relevant Coursework: Machine Learning, Distributed and Operating Systems, Natural Language Processing, Game Theory, Theory and Practice of Software Engineering, Game Programming

### University of Massachusetts Amherst

BS in Computer Science

Expected: Dec. 2024

- GPA: 3.94/4.00
- Awards: \$12,800 Sherwood Delaney Scholarship, \$7,200 John and Abigail Adams Scholarship
- Organizations: ACM Machine Learning Club (Marketing Coordinator), Rewriting the Code
- Relevant Coursework: Artificial Intelligence, Software Engineering, Database and Information Systems, Programming Methodology, Computer Systems, Algorithms, Data Structures, Object-Oriented Programming, Probability and Statistics, Multivariable Calculus, Linear Algebra

## Experience

### Amazon Web Services

Software Development Intern

Jun. 2024 – Aug. 2024

- Collaborated with the ELB Orchestration team to design and implement diagnostic tools resolving recurrent throttling issues.
- Developed Java packages for automated throttling systems using AWS services like Lambda, API Gateway, and CloudWatch.
- Built 5 real-time dashboards using CloudFormation and Grafana, achieving \$1M/month savings across all regions.

### Lab for Advanced Sleep Software and Sleep, UMass Amherst

Software Engineering Intern

Jun. 2023 – Aug. 2023

- Built a Streamlit dashboard for real-time sleep data analysis, improving research efficiency researchers.
- Led data visualization efforts using Pandas, Matplotlib, and Plotly, creating interactive charts to highlight trends in sleep.
- Managed participant data in REDCap and enforced SQL-based validation checks, reducing data entry errors by 25%.

### Lab for Internet-scale Distributed Systems, UMass Amherst

Research Assistant

Jun. 2023 – Aug. 2023

- Enhanced real-time NeRF training in Ringmaster using C++, improving performance by 20% with Ramesh Sitaraman.
- Tuned NVIDIA's open-source multi-resolution hash encoding algorithm to our data, accelerating novel view synthesis.
- Presented advancements in training and rendering efficiency at UMass Amherst's Summer Research Symposium.

### Neuro Learning and Performance Lab, UMass Amherst

Research Assistant

Dec. 2021 – May 2022

- Designed and implemented machine learning models and Bayesian inference techniques using MATLAB and PyTorch to analyze eye-tracking and multimodal data.
- Conducted data preprocessing and statistical analysis, uncovering patterns in rapid decision-making processes.

## Projects

### TuneLink — JavaScript, Python, MongoDB, React Native, Swagger UI

Oct. 2024 – Dec. 2024

- Designed Instagram-like mobile app for sharing music posts, enabling users to connect through music.
- Optimized the React Native front-end for performance, reducing interface lag by 30% and enhancing user engagement.
- Implemented scalable backend functions to efficiently retrieve and manage user and post data, reducing query times by 25%.

### Schedule Builder Website — JavaScript, Python, Next.js, MongoDB, Flask, React

Jan. 2024 – Mar. 2024

- Collaborated in a team to develop a full-stack schedule builder using Scum and Agile methodologies.
- Designed and implemented React front-end and integrated MongoDB for real-time data storage.
- Developed algorithms to generate non-overlapping course schedules based on user preferences.

### University Buy and Sell Website — JavaScript, HTML/CSS, PouchDB, Express.js

Jan. 2024 – Mar. 2024

- Collaborated in a team to develop a full-stack JavaScript marketplace application using Scrum and Sprint methodologies.
- Integrated Google authentication for secure user login and utilized PouchDB as the database to store listings.
- Developed API endpoints in Express.js to enable seamless integration between the front-end and back-end.

## Technical Skills

- **Languages:** Python, Java, C/C++, JavaScript, TypeScript, HTML/CSS, SQL, R, Go, Shell Scripting
- **Libraries:** Pandas, PyTorch, TensorFlow, NumPy, Matplotlib, OpenCV, Scikit-Learn, Keras
- **Tools and Frameworks:** AWS, Azure, Google Cloud Platform (GCP), ReactJS, NodeJS, Flask, Django, Git, Docker, Kubernetes, Rest API, GraphQL, FastAPI