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 95% tuition waiver.
- 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