Hanwen Liu

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EDUCATION

Stony Brook University   Stony Brook, NY
Master of Science in Machine Learning & Artificial Intelligence   Expected Dec 2025

The Penn State University   University Park, PA
Bachelor of Science in Computer Science   May 2021
GPA: 3.4   Dean's List (6 semesters)

PROFESSIONAL EXPERIENCE

FDM Group   Manhattan, NY
Software Engineer   Aug 2022 - May 2023
- Successfully developed and maintained a high-performing, scalable web application for the attendance system using **JavaScript**, **React**, and **CSS**, resulting in a 50% increase in user engagement
- Implemented clean, well-documented, and maintainable code, utilizing **Git** for version control and **JIRA** for project management
- Utilized Scrum methodology to consistently deliver quality software by actively participating in Scrum ceremonies, writing and testing code, providing constructive feedback, staying up-to-date on industry advancements, and effectively communicating with team members

Weitian Media   Wuhan, China
Software Engineer Intern   May 2019 - Sep 2019
- Designed a web crawler (**Python-based**) and conducted user browsing data analysis to determine current popular trends
- Constructed a visualized data dashboard using **React** and **Firebase** for efficient data storage and analysis. Resulted in a 50% increase in productivity for the Technology Development Team

PROJECT EXPERIENCE

AI supervised & unsupervised Q-A advisor (finetuned chatbot)   Sept 2024 - Dec 2024
- Developed a domain-specific chatbot by fine-tuning the **Mistral-7B model** using both supervised (manual Q-A pairs) and unsupervised (generated data) approaches.
- Implemented parameter-efficient fine-tuning techniques (**Low-Rank Adaptation (LoRA))** and model **quantization** to reduce computational resource requirements.
- Processed domain-specific data, including generating synthetic question-answer pairs using **Google Gemini Flash 1.5**, to create a specialized dataset for finetuning.
- Executed model finetuning on **Google Colab**, optimizing the process with quantization to fit GPU memory constraints.

Coursera Machine Learning   Dec 2023 - March 2024
- Implemented machine learning algorithms, including **supervised** and **unsupervised learning** techniques, to analyze large datasets and extract actionable insights
- Participated in online courses or workshops on **AI** and **machine learning**, completing assignments and projects to gain hands-on experience with fundamental concepts and techniques

Cozy Resident Portal   Feb 2022 - Jun 2022
- Created a visually appealing UI utilizing **React** and **AntD**, incorporating event, payment, service, and post dashboards
- Developed backend services using **Spring Boot**, enabling the functionality to add events, request services, add posts, and delete posts
- Integrated post details, uploaded images, and user-generated data with **MySQL (AWS RDS)**
- Managed media files utilizing **AWS S3** cloud service and Deployed backend services on **AWS EC2** for enhanced scalability and reliability

Star Tracker - Tracking the starlink satellites in real-time   Oct 2021 - Jan 2022
- Formulated satellite positions in real-time based on geolocation, tracking process by enabling users to search and follow satellite paths by inputting longitude, latitude, altitude, and duration information
- Improved the lated an interactive satellite tracking dashboard using **React** and **D3**, which allows users to track user experience by incorporating animations to mark the satellite paths on a world map drawn with **D3**
- Demonstrated the scalability of the dashboard by expanding its capabilities to the **Amazon Web Service** platform

SKILLS

Programming Languages: Java, JavaScript, React.js, CSS, HTML, SQL, Python, Xilinx Vivado, C, Android Studio
Technical Tools: React, Spring, AWS, Postman, MySQL, Java Servlet, Android Studio, Node.js
Related Skills: Web Design, UI/UX, Frontend/Backend, Machine Learning, Deep Learning(learning)