Amanda S. Liu

☎ 301-658-8068   •   ✉ asliu@umd.edu   •   in linkedin/asl3   •   ⌗ personal website

Education

University of Maryland, College Park   Aug 2020 - May 2024
B.S. Computer Science | Departmental Honors | GPA: 4.00   College Park, MD

- Full-Ride Banneker/Key Scholarship **(top 1% of students)**, ACES Cybersecurity & QUEST Business Consulting Honors Programs
- CS Ambassador, Google CSRMP Research Fellow, Rewriting the Code AI Student Leader, Grace Hopper Scholar (2021-2023)

Skills

Languages: Python, Java, SQL, OCaml, C, HTML/CSS/JavaScript, Bash, Ruby, Scala, Rust
Tools: PyTorch, React.js, Node.js, Selenium, Django, Flask, Git, Docker, Figma, MongoDB, Kubeflow, Bento, MATLAB, Unity
Coursework: Algorithms, AI, Programming Languages, Computer Systems, Data Structures, Discrete, Linear Algebra, Web Dev

Work Experience

Databricks   May 2023 - Aug 2023
Software Engineer Intern (Apache Spark OSS)   San Francisco, CA

- Created PySpark test framework to help millions of developers write more robust data pipelines in Apache Spark, using **Python, SQL, Scala**
- Founding engineer of English SDK for Apache Spark, using **Python, Langchain, OpenAI APIs** to democratize access to Spark

Snap   Aug 2022 - Dec 2022
Software Engineer Intern (AI Platform: Training Core)   Santa Monica, CA

- Develop end-to-end PyTorch ML model training pipeline using **Python, PyTorch, Kubeflow, Bento** to optimize model training flow
- Collaborate with customer ML engineers to support desired training features and simplify model training to one-click process

Meta   May 2022 - Aug 2022
Software Engineer Intern (AI Platform: PyTorch Architecture Optimization)   New York, NY

- Increase quantization accuracy for millions of PyTorch developers by implementing APoT nonuniform quantization with **Python, PyTorch**
- Calibrated neural network models (ResNet-50, ImageNet) and saw 19% improvement in Top-5 accuracy compared to uniform quantization

UMD Computational Linguistics and Information Processing Lab   Feb 2022 - Present
NLP/HCI Research Assistant   College Park, MD

- Studied Winogender schema data generation bias through LLM prompting techniques with **OpenAI APIs**
- Designed web platform using **React.js, Flask, Figma** to study user interactions with NLP search retrieval explanation tool

GoDaddy   June 2021 - Aug 2021
Software Engineer Intern (SSO Integrations)   Kirkland, WA (Remote)

- Coded full-stack solution in **Python/Django, React.js, Node.js** to decrease login page latency and increase customer retention
- Implemented benchmark pages and Split.io experiments to collect customer behavior data and inform front end site improvements

Teaching and Organizing

CodePath   Aug 2021 - Aug 2022
Coding Teaching Assistant (Intermediate Software Engineering)   Remote

- Teach data structures and algorithms to 500+ underrepresented students in tech, host office hours, develop curriculum

UMD Department of Computer Science   Jan 2021 - Present
CS Teaching Assistant (Programming Languages, Data Structures, Web Dev, OOP) College Park, MD

- Teach **OCaml, Java, Ruby, Rust, JavaScript** to 600+ students, lead discussions, provide debugging support, design and grade assignments

Technica Hackathon   April 2021 - Present
Hackathon Experience Organizer   College Park, MD

- Plan memorable day-of events for largest hackathon in the world for women and nonbinary students in tech (1,800+ participants)

Research Publications

Amanda Liu, Michael Coblenz. Debugging Techniques in Professional Programming. PLATEAU 2023.

Navita Goyal, **Amanda Liu**, Marine Carpuat, Hal Daumé III, et al. What Else Do I Need to Know? The Effect of Background Information on Users' Reliance on AI Systems. EMNLP 2023.

Yoo-Ah Kim, **Amanda Liu**, Teresa M. Przytycka, et al. Identifying Drug Sensitivity Subnetworks with NETPHIX. iScience 2020.

Projects

Enforcement Order Automated Web Scraping   2023
North American Securities Administrators Association (NASAA)

- Contracted to write scripts in **Python, Selenium** to automate data retrieval of enforcement orders from 50+ jurisdictions for international firm

Trading Simulation Bot   2021
Jane Street First-Year Trading and Technology Program

- Coded trading bot using **Java, Bash, Linux** to automate trading securities in market simulation (6th place)