Meenakshi Iyer

(408)-439-1987 | meenakshiiye@umass.edu | www.github.com/ammuiyer

Searching for a position where I can contribute to an engineering team. Interested in learning to build cybersecurity technologies in a professional and collaborative environment.

Education

University of Massachusetts, Amherst **Expected Spring 2025**
Bachelors of Science in Computer Science and Mathematics *Amherst, MA*
GPA: 3.57
Relevant Coursework: Algorithms, Data Structures, **Operating Systems**, Computer Systems, Programming Methodologies, **Discrete Math**, Linear Algebra**,** Statistics, Calculus
Clubs: FuseUMass (HackUMass & HackHer413), BuildUMass

Technical Skills

Programming Languages: Python, Java, Javascript, C, C++, SQL, HTML, CSS, Rust, MATLAB, LaTeX, Solidity
Frameworks: ReactNative, Node.js, FastAPI, AWS, Azure, SendGrid
Developer Tools: Git/Github, Docker, AWS, Visual Studio Code, Linux, MacOS

Experience

Undergraduate Research Volunteer **Amherst, MA**
Federated Learning *Nov 2023 - Present*
- Assisted PhD student in research on Federated Learning
- Developed a Pytorch model that simulated malicious clients participating in a Federated Learning program
- Created a poster on building more robust models that handled malicious clients

FuseUMass **Amherst, MA**
Head of Technology *Aug 2022 - Present*
- Developed Dashboard (HackUMass/HackHer413), a hackathon management platform used by 1000+ participants
- Deployed real-time solutions for integration with Slack, Discord, and Azure
- Improved form data validation for over 50% of application fields

Undergraduate Course Assistant **Amherst, MA**
CS 377: Operating Systems *Feb 2024- Present*
- Hosted weekly office hours to help students write code simulating Operating Systems topics
- Supported student success by answered questions regarding course content and logistics
- Graded 50+ student assignments per week, highlighting room for improvement

Projects

Pegasus iOS Vulnerability Investigation **December 2023**
Research Paper on Malware Exploiting iMessage Zero-day Vulnerabilities
- Researched Pegasus, an Israeli spyware that jailbreaks iOS devices by breaking ASLR and bypassing pointer authentication
- Analyzed code snippets in JBIG2 PDF Decoder revealing integer overflow leading to arbitrary memory access
- Wrote a 10 page paper explaining the jailbreaking process and associated dangers of Pegasus

DeadlockDetector **September 2023**
Rust Implementation of Banker's Algorithm
- Analyzed Banker's Algorithm, an algorithm that simulates resource sharing by concurrent threads for potential deadlocks
- Implemented Banker's Algorithm in Rust for enhanced security features to minimize memory leakage

AutoGippity **August 2023**
Personal Project following a Udemy Course
- Developed a Rust based bot to write code given natural language input with certain constraints
- Used OpenAI API to process text input and create a web server hosted on localhost, and networking protocol to connect the website and server
- Enhanced accessibility for all users by streamlining execution process