

Amith Kini Mattar

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Bryan, TX 77801

Sponsorship required: Yes

EDUCATION

Texas A&M University, College Station, Texas

May 2024

Master of Computer Science; GPA: 3.88/4

Courses: Artificial Intelligence, Deep Learning, ML-based Cyberdefenses, Operating Systems, Computer Architecture

National Institute of Technology Karnataka, Surathkal, India

May 2019

Bachelor of Technology in Information Technology; GPA: 9.01/10

SKILLS

- **Programming Languages:** Python, C++, Rust, JavaScript
- **Tools and Frameworks:** Linux, PyTorch, CUDA, Docker, Django, Node.js, React, MySQL

EXPERIENCE

Texas A&M University, College Station, Texas

Aug 2023 - Dec 2023

Graduate Teaching Assistant

- Teaching Assistant for CSCE 625 - Artificial Intelligence.
- Responsible for grading assignments and exams, holding office hours, and helping students with their doubts.

Arista Networks, Bengaluru, India

Jul 2019 - Jul 2022

Software Engineer

- Spearheaded and executed urgent feature enhancements in the Quality of Service (QoS) domain for major network providers in Europe and ISPs in Australia.
- Engineered and deployed Interface Policing and ACL-based policy-maps, amplifying the feature capacity by a factor of 10.
- Engaged consistently with the Customer Support and Proof of Concept teams to troubleshoot critical issues and offer support in network topology and configurations.
- Organized and contributed to hackathons, creating a CLI feature that introduces command execution warnings, thereby boosting user awareness of potential command impacts.
- Mentored and integrated new team members, offering expertise in work methodologies and tool proficiency.

Arista Networks, Bengaluru, India

May 2018 - Jul 2018

Software Engineer Intern

- Developed Layer 2 Protocol Forwarding capabilities to enable ISPs to direct L2 Protocol packets over pseudowire tunnels.
- Executed inter-process communication in C++ for hardware programming applications.
- Established unit and integration testing frameworks to safeguard against regressions.
- Introduced a solution that reduced package maintenance tasks from 20 minutes to 2 minutes, substantially boosting productivity.

YellowAnt, Bengaluru, India

May 2017 - Jul 2017

Software Developer Intern

- Contributed to the integration of new apps into YellowAnt's ChatOps platform.
- Utilized SDKs from Salesforce and Sentry to build applications, leveraging the Django framework for backend development.
- Conceived a Proof-of-Concept for natural language-based textual input in the chat application.

PROJECTS

- **Cache replacement:** Reproduced the results of EMISSARY cache replacement study, focusing on instruction caching for modern processor architectures. Implemented the policy on Ubuntu 64-bit with x86 architecture using the gem5 simulator, contributing to the understanding of cache line eviction impacts on processor performance and speedup. Dec 2023
- **CodeSecurely:** Mastered a new web framework in one day to integrate OpenAI's Codex and ChatGPT models using the OpenAI API, resulting in a fully AI-designed proof-of-concept website. This project showcased the potential of Large Language Models in identifying code vulnerabilities. Mar 2023
- **CyberAI:** Developed a malware defense and generation system using XGBoost and ChatGPT. Validated robustness through VirusTotal and sandbox testing, focusing on maintaining malware functionality. Mar 2023
- **Interface Policing:** Led the development of a high-scale, time-sensitive feature for Arista's EOS network OS. Implemented state management and fault tolerance, enhancing reliability for network environments. Sep 2021
- **Fooling DNN:** Created an adversarial image generator using genetic algorithms and CNN, focusing on exploiting vulnerabilities in single-image model pipelines and emphasizing the need for enhanced model robustness. Nov 2017

HONORS

- Won 2nd place in company-wide hackathon organized at Arista Networks.
- Executive member of Flying and Robotics Club, NITK.
- Secured a rank of 25 out of 150,000 students, Karnataka CET Engineering Entrance.