MOHAMMAD ARHAM

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EDUCATION

University of Massachusetts Amherst, Amherst, MA

Candidate, December 2024

College of Engineering: Bachelor of Science in Computer Engineering

Relevant Coursework

Networked Embedded Systems, Synthesis & Verification of Digital Systems, Computer Architecture, Intro to Cryptography, Math Tools for Machine Learning, Systems Programming, Hardware Organization & Digital Design, Security Engineering, Intro Embedded Systems, Probability and Statistics, Data Structures and Algorithms, Linear Algebra, Complex Numbers

TECHNICAL SKILLS

Proficient in Go, bash, TypeScript, JavaScript, Python, HTML, React, Node, MongoDB, SQL, Redis, Git, Linux, REST APIs **Have Worked with** Scrum, Agile, C, Docker, Kubernetes, Helm, Google Cloud, AWS, Azure, CI/CD, Testing Automation

WORK EXPERIENCES

CarGurus, Boston, MA

Jan 2023 – June 2023

Engineering Co-op - Platform as a Service

- Enhanced CLI tool based on Golang and Kubernetes to enable remote code builds, improving workload deployment pipelines, resulting in reduction of deployment time and improved developer experience
- Collaborated with developers across teams and stakeholders under Scrum and Agile practices to deliver features,
 identify and root cause issues
- Built tab-autocomplete scripts written in ZSH for the CLI independently, leading to improvement in developer experience and productivity
- Developed a GPT-4 API based dashboard for log analysis and referencing company documentation, error logs and online documentation to present solutions and presented it to the VP and the engineering platform team

AudioShelf, Co-Founder / Backend Dev

February 2022 – March 2023

- o Lead a team of two developers in backend development pipeline through kanban and code review on GitHub
- Designed backend API in typescript and content delivery service and microservices architecture on GCP
- o Developed CMS dashboard in react to manage content, users and monitor metrics for 2,500 mobile app users
- o Setup CI/CD pipelines to deploy microservices in US East and Mumbai region and load balance based on location

University of Massachusetts Engineering, Amherst MA

Sept 2023 - May 2024

Undergraduate Teaching and Research Assistant - Security Engineering

- Develop hands-on lab for 50+ students by implementing syncing protocols on NRF9160 5G IoT boards
- Designed data collection instruments focused on precise timing metrics, streamlining data acquisition processes
- Recorded errors in time syncing protocols over 5G, facilitating new research into network time synchronization
- Collaborate with professor to document findings and build appropriate curriculum for security courses

PROJECTS

GymSense, Senior Design Project UMass 2024

November 2022

- Led the software design for GymSense, ensuring seamless integration and real-time updates on occupancy
- Planned and implemented the connectivity and analytics framework for IoT devices in a low-power, low-cost IoT devices running on Bluetooth Low Energy
- Developed a dashboard using react, redux and websockets as a live dashboard for monitoring gym machines

LEADERSHIP ACTIVITY

HackUMass, Embeddings in Generative AI Workshop

November 2023

- o Delivered a hands-on workshop on developing Generative AI APIs to over 25 participants
- Developed and shared educational materials on context extraction, semantic search and embedding models
- Compiled a diverse array of real-world applications of embeddings, showcasing the practical use of embedding models