ASIF MAHMUD

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EXPERIENCE

IBM | Full-Stack Software Engineer
February 2019 – Present | San Jose, CA

- Collaborated with 5 development teams across 3 countries to develop custom Python modules, as part of a collection to facilitate development on the Z platform.
- Contributed the collection to Red Hat Ansible Galaxy open-source project.
- Ensured timely delivery of the collection by following Agile development principles. Scheduled catch up meetings and demo sessions to maintain overall team cohesion.
- Developed Ansible playbooks to automate the provisioning of a hierarchical database, decreasing total provisioning time by 30%. The improvement impacted 11 clients serving over 1.5 million customers per day.
- Developed a full-stack microservices application based on the hierarchical database, running on Docker containers and deployed on an OpenShift cluster.
- Tools: Java, Python, Ansible, Docker, Kubernetes, Jenkins, Node.js

NASA | Aircraft Cybersecurity Simulation Research Intern
June 2018 – August 2018 | Mountain View, CA

- As part of a 3-member team, researched and developed an extension to the NASA Air Traffic Testbed to emulate cyber attacks on aircraft within the national airspace.
- Created attack simulations targeting aircraft GPS, flight-plan and trajectory.
- The developed tools and simulation results will facilitate future effort on cyber threat detection and mitigation for aircraft systems.
- Tools: Java, Eclipse, GitHub

Personable Inc | Software Engineer Intern
January 2018 – April 2018 | Fountain Valley, CA

- Researched image processing algorithms to improve scanned document readability by OCR software. Created a 15 page reference describing each algorithm's use cases.
- Wrote documentation in LaTeX and created user guide for the ScanWriter software.

Thales Avionics | Software Engineer Intern
July 2015 – August 2015 | Irvine, CA

- Collaborated with 4 cross-functional teams to create a central API access location.
- Designed the storage server using LAMP stack and implemented a web interface to access API information, allowing each team 50% faster access to each other's APIs.
- Tools: MySQL, PHP, Linux, HTML/CSS, JavaScript, Bootstrap

PROJECTS

Smart Lock | Facial Recognition-based Biometric Door Lock System

- A door lock system that unlocks the door only if the person's face is recognized.
- Used LBPH algorithm to reduce inaccurate recognition due to imperfect lighting.
- Tools: Python, Raspberry Pi, OpenCV

Wikisearch | Wikipedia Search Engine

- Search engine for Wikipedia that uses distributed computing to preprocess search terms in each Wikipedia article and creates an inverted index using MapReduce.
- Tools: Java, Hadoop, MapReduce, Cassandra

Sudoku AI | Intelligent Sudoku Solver using CSP Heuristics

- An AI-based Sudoku solving agent that uses CSP heuristics to search for solutions.
- Won second place out of 250 students by solving a 25x25 board in under 3 minutes.

EDUCATION

University of California, Irvine
M.S. Computer Engineering
December 2018 | GPA: 3.70

University of California, Irvine
B.S. Electrical Engineering
June 2017 | GPA: 3.25
Minor in Computer Science

SKILLS

Languages
Proficient: Java • C++ • Python
Experience: C • Matlab • Bash
Familiar: C# • JavaScript • PHP

Back End
Node.js • ASP.NET • MySQL
Cassandra • MongoDB • Redis
Docker • Kubernetes • AWS
Hadoop • MapReduce • ICP

Front End
AngularJS • React • Bootstrap

DevOps
Ansible • Jenkins • Artifactory

Tools & Platforms
Visual Studio • Eclipse • VIM
OpenCV • Git/GitHub • UML
LaTeX • Visual Studio Code
Linux/UNIX • Raspberry Pi

COURSES

Artificial Intelligence
Embedded Systems
Computer Architecture
Applied Cryptography
Internet of Things
Design & Analysis of Algorithms
UNIX Systems Programming
Operating System Principles
Computer Networks
Data Structures & Algorithms
Database Management
Software Engineering Principles
Information Storage

LINKS

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