

MEGHA SINGH

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EDUCATION

University of Massachusetts Amherst Amherst, MA
Master of Science, Computer Science | GPA: 4.0/4.0 Expected Graduation : May 2025
Coursework: Distributed Computing and Systems, Secure Distributed Systems, Machine Learning

Vellore Institute of Technology Vellore, India
Bachelor of Technology, Electronics and Communication | GPA: 3.57/4.0 Jul 2014 – Apr 2018
Relevant Courses: Computer Programming, Data Structures and Algorithms, Computer Architecture

TECHNICAL SKILLS

Programming languages: JAVA, Python, Ruby, SQL, HTML, CSS, React.js, Node.js, Solidity
Tools and OS: REST APIs, Cassandra, MongoDB, Git, AWS, PowerShell, Selenium, JIRA, Jenkins, Linux
Technologies: Virtualization, Distributed Systems, Cloud Computing, Web Development, Blockchain

WORK EXPERIENCE

VMware Bangalore, India
Member of Technical Staff Aug 2020 – Jul 2023

- Engineered scalable microservices enabling Multi-Cloud Architecture, cutting deployment time/costs multifold.
- Designed and Implemented APIs for Non-Disruptive VM Upgrade, reducing vCenter server software upgrade downtime from several hours to 5 minutes, $\approx 1500\%$.
- Centralized host configurations on vSphere ESXi building ConfigManager capabilities, saving engineering hours.
- Revamped ConfigStore CLI (tool to manage host configurations) overhauling the existing system with 20+ user-friendly interface options, leading to a 50% decrease in user errors.
- Automated software testing workflows and configured them in a CI/CD pipeline, reducing manual effort by 80%.
- Resolved 50+ complex customer issues with VMware HostProfiles in collaboration with customer support teams.
- Delivered monthly cross-team knowledge transfer sessions to facilitate improving technical expertise.

Espressif Systems Pune, India
Staff Engineer Jan 2020 – Aug 2020

- Constructed a CLI framework for ESP-Rainmaker (open-source software for hassle-free deployment of an IoT device network) to add and modify devices and their state, in as less as few seconds.
- Enhanced integration of ESP32 chip with Alexa built-in devices, using Python automation, overcoming the redundancy of managing complex cloud services, making it easier than ever to build low-cost Alexa devices.

Johnson Controls Pune, India
Engineering Associate Jul 2018 – Dec 2019

- Minimized the costs of evaluating a security product geographically blocked from working in India, by designing a virtual setup using Python, Jenkins, and Virtualization, also accelerating project completion by $>75\%$.
- Debugged 30+ issues on Connect24 portal (website for administering security alarm devices) using ReactJS.
- Optimized false alarm detection capabilities within the iOtega home security panel using JAVA Spring Boot.

Intern Jan 2018 – Jun 2018

- Eliminated 40% use of physical storage disks by building a Cloud Storage Disk using MongoDB and Node.JS for a small-scale Building Management System.

PROJECTS

Fault Tolerant Consistent Distributed Database Dec 2023
Built a fault-tolerant replicated datastore application using Paxos and Zookeeper as a logically centralized service.

Custom Blockchain with ERC223 tokens Dec 2023
Constructed a custom functional blockchain that combines the ideas of proof-of-work, transactions, sha256 hashing and a token contract manager using ERC223 tokens.

VM Latency Monitoring Tool Jun 2023
Innovated a tool to monitor real-time VM latency during software upgrade, and suggest memory/network customizations, fastening upgrade process by upto 65%, using historical data, support logs, Python and Jenkins.

Chat Application Dec 2022
Built a RESTful API Instant Chat Application using Node.JS and Socket.IO, supporting multiple active users.

Image-to-Speech Converting Smart Reader Apr 2018
Created an economical Image-to-Speech Converter to convert handwritten text to audio, using Python OCR, NLP, and Raspberry Pi, having $\approx 25\%$ improved performance than existing systems.

HONORS AND AWARDS

Elevate Our Best: VMware Jan 2022
Employee of the Month: Johnson Controls Oct 2019
Pat on the Back: Johnson Controls Jul 2019