SABARISH MUTHUMANI

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Professional Summary

- I'm a hands-on engineer with over 4 years of experience working in high-scale environments, including systems processing over **10 million+** requests per day, across top-tier organizations like Cisco, NPCI, and Virginia Tech.
- I'm deeply skilled in Node.js, Docker, Kubernetes, Java Spring Boot, and cloud platforms like AWS and Azure, building everything from scalable REST APIs to infrastructure for real-time AI and 5G research.
- My experience spans across production-grade CI/CD pipelines using GitLab CI, Jenkins, SonarQube, Selenium, and Zabbix, with strong focus on observability and reliability via ELK Stack, Prometheus, and Grafana.
- I bring solid academic foundations in Operating Systems, Computer Networks, Virtual Memory, Computer Architecture, Multiprocessor Scheduling, and Software Development Lifecycles.
- I have also worked closely with GPU computing, KVM virtualization, blockchain (Hyperledger Fabric), and secure identity systems with LDAP and 2FA.

Education

Virginia Polytechnic Institute and State University   Aug. 2023 – May 2025
Master of Science in Computer Engineering, GPA: 3.8/4   *Blacksburg, USA*

Amrita School of Engineering   Aug. 2016 – May 2020
Bachelor of Technology in Computer Science and Engineering, 7.7/10   *Coimbatore, India*

Work Experience

Virginia Tech   May 2025 - Present
Network Engineer   *Blacksburg, Virginia*
- Developed a monitoring solution using Zabbix and PostgreSQL, and managed logs with ELK Stack.
- Installed OS with ZFS and GRUB, ensuring reliable boot for RAIDZ1 pool, with fault tolerance for single disk failure.
- Set up DELL EMC and Synology PCIe storage solution, to enhance r/w performance for data management.
- Configured NVIDIA GPUs for deep learning/AI research, accelerating model training and KVM virtualization.
- Managed authentication using Ansible, integrated LDAP with 2FA for secure access within the college.
- Configured Cisco switches, enabled firewall on servers, and optimized file systems to meet specific requirements.
- Created virtualization clusters for 5G research, installing radios and setting up KVM for seamless integration.
- Enabled a real-time streaming platform using Kafka on AWS with EC2, S3, and Docker for student data processing.

Mouri Tech   May - July 2024
AI Analyst Intern   *Irving, Texas*
- Developed a chat-bot using Azure AI, OpenAI, and GraphQL for a Retrieval-Augmented Generation (RAG) application.
- Reduced hiring time by 40% by developing an AI screening platform using Azure Vector Search and Document Intelligence.

Cisco Systems, Inc. (1.8 years)   April 2022 - August 2023
Software Engineer   *Bangalore, India*
- Deployed scalable SaaS platforms by developing async REST APIs using Java Spring Boot, on Kubernetes.
- Resolved XSS vulnerabilities, Kafka lags, Camunda workflows, and Angular updates, improving performance by 30%.
- Built a scalable migration workflow in Node.js for 1000+ customers, reducing cutover time by 75% and minimizing downtime.

National Payments Corporation of India (NPCI) (1.2 years)   November 2020 - March 2022
Senior Associate Developer   *Hyderabad, India*
- Automated onboarding of 150+ banks to a Hyperledger-based platform using Bash, reducing setup errors by 80%.
- Implemented 3 ACK Verification Logic in Node.js, using RabbitMQ and Redis increasing success rate to 90%.
- Improved production deployments using CI/CD pipelines via GitLab CI and Jenkins, reducing rollback time by 75%.
- Boosted token generation through batch processing in Hyperledger Fabric using Golang, scaling token issuance by 150%.
- Provisioned ElastAlert and Kibana dashboards for monitoring using ELK stack, reducing manual monitoring.
- Set up OS and Kubernetes clusters for prod, staging, test, and dev environments to streamline SDLC and testing.

Projects

- Custom Work Stealing Algorithm [Repo] | *Java, Multiprocessor, Threads, ForkJoin Pool, Java*   **March 2024**
- Wildfire detection using OpenCV [Repo] | *OpenCV, Image processing, CNN, computer Vision*   **December 2023**

Technical Skills

Languages: C, C++, Java, JavaScript, TypeScript, Python, Go, Bash, SQL/NoSQL
Frameworks/Tools: Node.js, Spring Boot, Angular, React.js, REST APIs, Docker, Kubernetes, GitHub
Cloud/DevOps: AWS, Azure AI, GitLab CI, Jenkins, SonarQube, Zabbix, ELK Stack, Prometheus, Ansible
Database/Infra: PostgreSQL, MySQL, MongoDB, Redis, RabbitMQ, Linux/Unix, KVM, Hyperledger Fabric