Sainath Santa Ram

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EDUCATION

The University of Texas at Austin — Aug 2023 – May 2025
Master of Science in Information Science - Applied Machine Learning and Deep Learning Track

SRM Institute of Science and Technology — May 2016 – Jun 2020
Bachelor of Technology in Computer Science and Engineering — **GPA 9.75/10.00**

WORK EXPERIENCE

Cisco Systems — Bangalore, India
Software Engineer — *Aug 2020 – Aug 2023*
- Tech Stack - *Kubernetes, DevOps, Python, Helm, Jenkins, Docker, AWS, DevSecOps, Groovy, React*
- Managed **production releases, hotfixes**, and Kubernetes/Istio upgrades for Cisco IoT product and supported applications while handling day-to-day operational activities for Cloud Native based Microservices
- Achieved a **50% reduction in operational costs** of AWS EKS Kubernetes Cluster by executing capacity planning exercises and implementing Horizontal Pod Autoscalers (HPAs)
- Executed a **seamless migration of 1 million project-critical Redis keys** from a standalone to a clustered ElastiCache setup with zero downtime and no data loss using Python scripts
- Utilized kubernetes cron job to achieve **20% reduction in database size** by removing stale entries
- Implemented sensor data encoding and decoding APIs for LoRaWAN sensors complemented by a user-friendly UI
- Took **ownership of end-to-end CICD**, helm charts and monitoring dashboards for Satellite Comm Project
- Developed React dashboard integrating Jenkins, Github, and Sonar data for repo stats, versions and coverage
- Wrote a reusable Groovy library to streamline CICD processes, and **parallelized build steps** using locks resulting in a 40% reduction in build pipeline execution time
- Enhanced the **security of the Production Build Environment through DevSecOps** practices, effectively addressing 28 critical CVEs and formalized an audit process to assess readiness every quarter

Software Engineering Intern — *Jan 2020 – Jun 2020*
- Tech Stack - *Python, Neo4j Graph Database, Gradle Plugin, Spring Batch*
- Created a test case impact analysis system, optimizing release testing efficiency by focusing on impacted test cases
- Contributed to the development of a knowledge graph for mapping test cases to source code, resulting in a significant **reduction in time-to-release, from weeks to days**, by selectively running only affected test cases

TECHNICAL SKILLS

Languages: Python, Golang, SQL, Shell Scripting
Libraries and Framework: FastAPI, Streamlit, FastAI, Neo4j, Postgres, Pandas, NumPy, Scikit-learn, Pytorch
Developer Tools: Kubernetes, Helm, Helmfile, Terraform, Git, Docker, Jenkins, AWS, Istio, ELK Stack, Rancher

PROJECTS

Project Poopy - Programming Language | *Programming, Systems Design* — Ongoing
- Developing a personal programming language complete with a dedicated lexer, parser, syntax, and CLI tool

SQL-GPT | *OpenAI LLM, Postgres, API Development* — Dec 2022
- Leveraged OpenAI's Codex Model to enable Natural Language to SQL translation, creating APIs to facilitate user interaction and execute the translated queries against database

Model Training Metrics as Push Notification on Mobile Phone | *Deep Learning - PyTorch* — Aug 2019
- Developed a mechanism using PyTorch Callbacks to send training metrics and loss plots as push notifications
- Published a blog article on Medium describing how to implement push notifications for model training

AWARDS

Cisco IoT Hackathon | *Winner* — Apr 2022, Apr 2021
Major League Hacking | *Winner* — Dec 2018

EXTRACURRICULAR SKILLS

- Worked with non-profit organization to create interactive learning materials for rural students in India
- Mentored college students on key skills for career growth as part of Women In Technology - Ananya Cohort