ruchi-saha
ruchi09

Ruchi Saha

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Education

Dual Degree (BTech + MTech) Computer Engineering, CGPA: 8.89/10 (2015 - 2020)
Indian Institute of Information Technology, Design and Manufacturing, Kancheepuram

Class XII, Percentage: 91.8% , Kendriya Vidyalaya AFS Uttarlai (2013 - 2014)

Class X, CGPA: 10/10, Kendriya Vidyalaya AFS Uttarlai (2011 - 2012)

Work Experience

Backend Server Engineer, Samsung R&D Institute India-Delhi (Jan'21 - Present)

- *Tech Stack:* Microservices, Scala, Redis, Postgres, Kubernetes, AWS, Cloud System Design
- Designed and developed microservice based softwares, which collects data from several continents to empower Samsung TV+ services. Added features for improved monitoring of data quality.
- Developed a new system to process data in any json format for expansion of core business. Also ensured easy integration of newly created system into existing one.
- Redesigned core systems which improved data correctness to ∼100% and also provided a better scalability with reduced processing time. The system processes more than 100Gb of data every day.
- Fixed legacy issues in a critical service which minimised 5xx errors on servers. The system uses CDN and serves more than a million requests a day directly to active Samsung's Smart TVs.
- Performed failure identification and recovery at pod level in Kubernetes (infrastructure level using AWS CLI).
- *Innovation:* Conducted multiple events to promote innovation culture in the department. Focused on inter and intra team innovations as well as innovations for Samsung TV+ services. Also submitted new feature ideas and got shortlisted in department level hackathon.

Network Analyst (Intern), GAVS Technology (May'18 - Jul'18)

- *Tech Stack:* Lua, C++, Kafka, Solr
- Established data pipleline from open source packet sniffer to solr server, transferring hundreds of records per second.

Academic Work Experience

Network Systems Researcher (Final Year Project/ Master's Thesis), IIITDM Kancheepuram (Nov'19 - Jul'20)

- *Tech Stack:* Python, FPGA (Programable hardware), Verilog, Vivado, Network System Design, IPv4 Packet Forwarding
- Developed a FPGA-based Multi-match Packet Classification Architecture for Network Intrusion Detection Systems.
- Achieved 5.9x higher performance while consuming 5x lower resource. Also enabled configuration time scaling of designed hardware.
- Work submitted to the journal of Computer Systems Science and Engineering (A short summary of work here).
- Project supervised by Dr Noor Mahammad SK, supported by Ministry of Electronics and Information Technology, Govt. of India.

Cryptography Research Intern, IDRBT, Hyderabad (May'19 - Sep'19)

- *Tech Stack:* Python, Cryptography
- Researched on Data Integrity and Deduplication in fog to cloud based IoTs (link), Supervised by Dr P Syam Kumar.
- Work was submitted to Computer Networks journal in Elsevier.

Design Thinker (Waste Management), IIITDM Kancheepuram (Jul'16 - Nov'17)

- *Tech Stack:* Design Thinking
- Worked towards minimising litter around Dustbins. Spent hours sitting close to trash cans observing how people behaved around them.
- Done stakeholder analysis and feedback loop analysis for the same. Work supervised by Dr. Sudhir Varadarajan.

Skills

Programming Languages	Scala, Python, Java, C++, NodeJs
Cloud and Software Technologies	Microservices, System Design, Kubernetes, Docker, AWS
Databases	Redis, PostgreSQL
Tools	Git, Jenkins, Kibana, Grafana, Sensu, Intellij, PyCharm, Visual Studio, LaTeX
Additional Skills	Research, Innovation, Event Management

Awards & Honors

Ford CSAM IoT Security Paper Presentation (link), Won Best Paper Award (2019)
School Captain, Kendriya Vidyalaya AFS Uttarlai (2013 - 2014)
School Vice Captain, Kendriya Vidyalaya AFS Uttarlai (2012 - 2013)