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**GitHub**: 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

## 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 the newly created system into existing ones.
- 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 minimized 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:* Awarded 'Best In Development - Business Idea' at the organizational idea-demo. Won a prize for a chosen concept in the department-level ideathon. 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.

**Network Analyst** (Intern), GAVS Technology                    (May'18 - Jul'18)
- *Tech Stack:* Lua, C++, Kafka, Solr
- Established data pipeline 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 (Programmable 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 hardware scaling.
- Work submitted to the journal of Computer Systems Science and Engineering (A short summary of work here).
- 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 the Computer Networks journal in Elsevier.

**Design Thinker** (Waste Management), IIITDM Kancheepuram                    (Jul'16 - Nov'17)
- *Tech Stack:* Design Thinking
- Worked on minimizing litter. 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

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|---|---|
| **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 |
| **Additional Skills** | Research, Innovation, Event Management |

## CERTIFICATIONS & AWARDS

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|---|---|
| **UPMS Award (Best In Development - Innovation, Business Value & Usability),** Samsung R&D Institute | (2023) |
| **Software Certification - Professional,** Samsung R&D Institute | (2023) |
| **Software Certification - Advanced,** Samsung R&D Institute | (2021) |
| **Ford CSAM IoT Security Paper Presentation** (link), Won Best Paper Award | (2019) |