Swarali Surana

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Education

Georgia Institute of Technology, Atlanta, GA ***Aug 2021 onwards***
Master of Science in Computer Science

Maharashtra Institute of Technology, Pune, India ***Aug 2014-May 2018***
Bachelor of Engineering in Computer Science *GPA: 3.82/4*

Professional Experience

Persistent Systems ***Sept 2018-July 2021***
Senior Software Engineer

- **IBM Netezza** - on premise Netezza Performance Server (NPS) database engine

  As a part of Netezza, we design and deploy high-performance data warehousing appliances and advanced analytics applications in enterprises - for uses including Business Intelligence and Predictive Analysis.

  My responsibilities include carrying out Root Cause Analysis and providing fixes for resolving customer escalations, performing feature enhancements in components like System Manager, Planner and Optimizer, Live Disaster Recovery (Replication), System Health Check.

- **IBM Netezza on Cloud** - cloud native deployment for Netezza Performance Server (NPS) database engine

  Worked on feature development for no downtime scaling of storage, connection manager between NPS and influxDB, implementing REST handlers for dashboard monitoring.

  Earned two individual and one team award for this work.

Technical Skills

Languages: C, C++, Python, Bash Scripting, Perl Scripting, Golang, Solidity, HTML, MySQL, PostgreSQL, SQLite3
Technology: Docker, Kubernetes, Openshift, Nodejs, Ethereum, REST framework, CUDA

Key Projects

Blockchain based Service Engine for Tangible Asset Management ***Sept 2017 - Mar 2018***
Senior Year Project sponsored by Persistent Systems Ltd

- Designed and developed a service-engine using Blockchain technology for Land Property Management.
- Used Smart Contracts to implement features like registering, buying, selling, leasing a property, maintaining its chain of custody, property auctions.

Video Stabilization for Unmanned Aerial Vehicles (UAVs) ***Feb 2017 - Mar 2017***
First Runners up at Smart India Hackathon 2017 under Ministry of Defense

- Designed a client-server application to process and stabilize the jittery video captured through UAV drones and stream them to thin clients in near real time.
- Utilized high level feature tracking to identify transformation in consecutive frames of video, Lucas Kanade Algorithm to calculate optical flow, and averaging out transformations using moving averaging window
- Achieved near real time performance by using CUDA parallelism

Major Forums

- *Persistent Computing Institute's Winter School on Data and Functional Programming* ***Dec 2016***

  Integration of theoretical math concepts of λ-calculus in functional programming language 'Gofer'. Built a compiler and interpreter for functional programming language 'Gofer' in 'Gofer'

- *Microsoft India Academic Research Summit* ***Jan 2017***

  Usage of technology for societal good

- *ACM India Summer School on Information Security and Forensics* ***May 2017***

  Theory and hands on learning for topics including Blockchain, Cryptography and Number Theory, Data Privacy, Digital Forensics Fundamentals, Mathematical Models of Computer Security, Mutual Trust Mechanisms, Network and Internet Security, Software and Application Security.

Awards

- Two High Five Individual Awards from Persistent Systems for the work done on IBM Netezza in scaling tasks and solving critical defects and one Team Award for contributions to IBM Performance Server for Postgres Product
- First Runners Up at Smart India Hackathon 2017 under Ministry of Defense
- Winner in Idea Presentation Competition for Digitizing Healthcare

Extra Curricular

- Conducted technical sessions in Linuxication workshop - 3 day event on less explored, interesting features of Linux ecosystem, 2016-2017
- Part of the Editorial team for technical newsletter of Maharashtra Institute of Technology (MIT) Computer Users Group, 2015-17
- Winner of inter-collegiate debate and elocution competitions, 2014
- Member of the college's cultural group and part of play called 'Mishmi' that won accolades in prestigious Firodiya Karandak (most coveted intercollegiate performing arts competition in Pune city), 2014-15