

VINITA PARASRAMPURIA

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EDUCATION

New York University

Master of Science, Computer Engineering, CGPA 3.96/4.0

Internet Architecture & Protocol, Data Structures & Algorithms, Database Management System, ML

New York City, NY

Sept 2021 - May 2023

Jadavpur University

Bachelor of Engineering, Instrumentation and Electronics, CGPA 9.56/10

Numerical Methods & Comp Prog, Object Oriented Prog, Comp Organization & Networking

Kolkata, India

July 2012 - May 2016

PROFESSIONAL EXPERIENCE

Research Assistant, New York University

June 2023-Present

- Research on existing ISP network topologies and their capacities using traceroute and Looking Glass to build resilient networks.
- Build experimental profiles using bash and Python on Linux systems hosted on educational testbeds like FABRIC and CloudLab.
- Setup access and transit networks at different POPs using PIM, OPSF, BGP with redundant paths to emulate real-time network.

Cloud Automation Engineer Co-op, Nokia Corporation of America

Jan 2023 – May 2023

- Defined and tested APIs for user management in ETSI-MANO architecture-VIM, VNFM, NFVO using KeyCloak and Keystone.
- Built an application to centralize KeyCloak and KeyStone AAA for different cloud infrastructure applications using ReactJS.
- Developed and tested python scripts using Redfish and IPMI to execute commands in BMC to perform hardware diagnosis.

Teaching Assistant, New York University

Sep 2022-Dec 2022

- Assisted the Professor in Internet Architecture course, maintained course website and addressing queries on discussion forum.
- Conducted sessions for students to discuss concepts on TCP/IP, NAT, subnetting, switching, routing, SNMP, ICMP, DHCP.

Senior Instrumentation Engineer, Cairn Oil & Gas, Vedanta Ltd.

July 2016-Aug 2021

- Spearheaded 90mmscfd gas processing unit, overseeing stakeholders, and successfully completing projects from inception to execution.
- Enhanced operational efficiency by process automation, real time monitoring, data visualization and analysis using PLC/SCADA.
- Managed project schedule and used agile techniques for installation, testing and commissioning of a plant worth \$230mn.
- Achieved 33% increase in sales capacity of plant and meeting client needs by installing additional gas stream in fiscal metering unit.

PROJECTS

Experimental study of TCP CCA performance at core and edge scale

CloudLab, FABRIC, Python, Bash

- Conducted experimental study of fairness and throughput of multiple congestion control algorithms-BBR, Cubic and NewReno.
- Wrote bash and Python scripts for experiment automation, data analysis and visualization on CloudLab and FABRIC testbeds.
- Carried validation of Mathis throughput model and its dependence on packet loss rate and congestion window halving rate.

Theoretical study of TCP Cubic Congestion Control Algorithm

Wireshark, Geni, CloudLab, MATLAB

- Study of steady state throughput of Cubic using deterministic loss model and random loss model with Markov chain queuing theory.
- Carried simulation of Cubic analytical models at different parameters and compare performance with TCP Reno on MATLAB.

E-commerce analytics pipeline

Oracle SQL Developer, Data Modeler, MySQL, Tableau

- Designed the logical and relational model from over 50k data entries of an e-commerce platform after data normalization.
- Created ETL and CDC code to load data from OLTP database, transform it to match DW schema design, and load it to DW database.
- Used advanced database features like external tables, partition tables, function base indexes, triggers, procedures, SQL Loaders.
- Carried extensive data analytics by making dashboards and stories using Tableau to deduce profit and loss factors.

SKILLS

Languages: Java, Python, C, C++, JavaScript, HTML, CSS, SQL, Shell, Bash

Tools & Libraries: Numpy, Pandas, Seaborn, Matplotlib, GIT, Jira, MySQL, MATLAB, NodeJS, ReactJS, Postman, Tableau, AWS

Network: TCP/IP, OSPF, BGP, DNS, NAT, DHCP, NTP, VPN, SNMP and network security, RIP, MPLS, ICMP

ACCOMPLISHMENTS

- 2022:1st Prize in Morgan Stanley Code to Give Hackathon for making a web app to match a mentor and mentee using ReactJS.
- 2020: Chairman's award for "Process Improvement through Innovation" from amongst 75,000 employees.
- 2020-Identified as Young Leader for delivering a project on "Media relations and content strategy for Cairn".