RISHIKA GURRAM

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EDUCATION

Northeastern University, Boston, MA *Expected Dec 2024*

Master of Science in Information Systems (Computer and Software Engineering), **CGPA: 3.7**

Relevant Coursework: Network Structures and Cloud Computing, High Parallel Machine Learning and AI, Program Structures and Algorithms, Web Design and User Experience, Data Science Engineering Methods and Tools

Jawaharlal Nehru Technological University, Hyderabad, India *May 2020*

Bachelor of Technology in Electronics and Communications Engineering, **CGPA: 8.6**

TECHNICAL SKILLS

Languages: Python, C++, SQL, JavaScript, Java, Unix Shell Scripting
Cloud Technologies: AWS (EC2, RDS, S3, CloudWatch, Route53, IAM), Terraform, GitHub Actions, Azure
Web Technologies: React JS, Node JS, Express, HTML/CSS
Databases: Oracle, PostgreSQL, MySQL, MongoDB
Tools/IDE: Git, Docker, HPC Clusters (OpenMP, DASK), RESTful APIs, Postman, Packer, Oracle Hyperion

WORK EXPERIENCE

Graduate Teaching Assistant *Aug 2024 - Dec 2024*

Northeastern University, Boston, USA

- Mentored 50 students in CSYE7015 course on high-performance computing and parallel machine learning, guiding them through parallel architectures, HPC clusters, and multi-CPU/GPU data processing and machine learning implementations. Supported hands-on labs on Northeastern's Discovery cluster

Software Engineering Intern *Jul 2023 - Dec 2023*

12-15 Molecular Diagnostics, CT, USA

- Spearheaded a code refactoring initiative on a healthcare device, leading to a 45% decrease in error rates and the development of a highly efficient desktop application to streamline healthcare operations
- Adapted and optimized algorithms for client-specific use cases, implementing custom configurations and refining computational logic to address diverse healthcare
- Developed and deployed an ETL pipeline to automate complex data analysis, achieving a 50% reduction in processing time and significantly improving data accuracy and reliability
- Architected and implemented a scalable microservices architecture using Docker and AWS, integrating desktop applications with cloud-based systems for real-time user experiences and enhanced flexibility

Associate Software Engineer *Dec 2020 - Aug 2022*

Accenture, India

- Architected and implemented a comprehensive access control framework within the Oracle Hyperion workspace, resulting in a 45% reduction in system implementation time and improved data security
- Streamlined Dev, UAT and Prod environment consoles during business phases to complete tasks including migration, patching and hierarchy changes, yielding up to 60% reduced downtime and errors

ACADEMIC PROJECTS

Leveraging Parallel Processing for AI image detection (PyTorch, CUDA, Discovery Cluster, NVIDIA GPU) *Apr 2024*

- Orchestrated parallel processing on 6 GB dataset utilizing multiprocessing, DDP, and DDP AMP across diverse CPU and GPU resources on OOD, optimizing computational efficiency to amplify performance
- Implemented efficient utilization of Tesla NVIDIA GPU resources, cutting processing time by 93% and achieving image detection in 32 minutes, with an accuracy of 75%, marking an advance from serial processing
- Employed a 4-GPU AMP configuration, to establish a performance benchmark, demonstrating a 13% speedup over standard GPU setups and showcasing expertise in optimizing AI workloads for maximum efficiency

Restful Services on Cloud (AWS, Python FastAPI, PostgreSQL) *Apr 2023*

- Architected a three-tier RESTful API infrastructure on AWS optimizing infrastructure provisioning using Terraform templates for automation of EC2/RDS instances, VPC, Subnets, and Security Groups
- Engineered a CI/CD pipeline using GitHub Actions, Packer AMI builder, and CodeDeploy, reducing deployment time from several hours to 20 minutes
- Utilized CloudWatch to monitor EC2 and CPU RAM to create triggers for scale-in and scale-out rules for the Application Load Balancer, guaranteeing it could control up to 10,000 requests concurrently