Devansh Rastogi

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Education

Indian Institute of Technology Madras — Chennai, Tamil Nadu
Bachelor of Science in Data Science and Applications, CGPA - 8.25 (Upto 1st Semester) — *Jan. 2024 – Dec. 2027*

Guru Gobind Singh Indraprastha University — Dwarka, Delhi
Bachelor of Technology in Computer Science, Minor in AI & ML, CGPA - 8.80 (Upto 6th Semester) — *Sep. 2021 – July 2025*

Experience

Research Intern — May 2024 – Present
IIIT-Delhi — *On-site, Networked Systems Lab*
- Collaborated on a project associated with Marvell Technologies USA and IIT Hyderabad
- The ongoing project aims to simulate RDMA network traffic for distributed AI model training and inferencing
- Acquired extensive knowledge about operating systems, AI models, LLMs, deep learning, and distributed computing
- Conducted in-depth research on RDMA technology, specifically the RoCEv2 implementation

Data Science Intern — Feb. 2024 – Mar. 2024
IBM SkillsBuild — CSRBOX — *Remote*
- Acquired sound technical knowledge of data cleaning and preparation, statistical analysis and data visualization
- Tested this knowledge on the analysis of a real-world project through a case-study
- Learned to interpret the results of the analysis and presented them effectively

Liaison Officer — July 2023
G20 Conference on Crime and Security in the age of NFTs, AI & Metaverse — *On-site, Gurugram - Haryana*
- Facilitated collaboration among G20 nations' representatives
- Ensured seamless communication on emerging NFT, AI, and Metaverse challenges
- Fostered collective strategies for global crime and security

Projects

RDMA Network Traffic Analysis for Distributed LLM Inferencing | *PyTorch, torchrun, Llama* — June 2024 – Present
- Collaborated with a team to understand RDMA network packet traces for a distributed LLM inferencing workload
- Used Nvidia's H100 GPUs on IIITD's rack servers for LLM inferencing
- Set up a physical RDMA (RoCEv2) communication infrastructure for efficient GPU-GPU communication using Intel RNIC
- Generated RDMA traffic for ditributed Llama-2 inferencing workload using PyTorch library's torchrun functionality

Hotel Reservation System | *Ballerina, Choreo, React.js* — Feb. 2024
- Implemented an API service using Ballerina programming language to demo a simple hotel reservation use case
- Developed front-end using React.js and built this project as a part of a buildathon conducted at my college
- Acquired sound technical knowledge about Ballerina and Choreo concepts
- Deployed the fully working Ballerina application on Azure cloud using Choreo

Classify Song Genres from Audio Data | *Python, Pandas, Seaborn, Scikit-learn* — Jan. 2024 – Feb. 2024
- Trained a classifier to distinguish between Hip-Hop and Rock genres based only on track information derived from Echonest
- Prepared the dataset using Pandas and Seaborn packages to apply principal component analysis (PCA)
- Used the Scikit-learn package to predict whether we can correctly classify a song's genre based on features such as danceability, energy, acousticness and tempo
- Used cross-validation to evaluate the models

younixShop | *C++, Object-Oriented Programming* — Dec. 2022 – Jan. 2023
- Simulated a typical inventory management software using only C++ code
- Primarily used C++ file handling operations to carry out all types of transactions
- Provided functionalities such as administrative management, customer account management, bill management, sales-report generation and even a dedicated customer help centre page
- Strictly followed an object-oriented design and ensured sensitive data security through the usage of binary files

Technical Skills

Languages: Python, C, C++, Swift, SQL
Data Science: PyTorch, TensorFlow, Pandas, NumPy, Scikit-learn, Matplotlib
Developer Tools: Git/GitHub, VS Code, Xcode, JupyterLab, RStudio
Hardware Skills: Arduino, Raspberry-Pi, Circuit Design, Sensor Integration, GPIO Programming

Extra-Curricular Activities

Engaged in regular & independent community service involving the preparation and distribution of meals to individuals in need