

Desh Iyer

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Education

UPES

B.Tech in Computer Science & Engineering (Hons.) Spl. AI/ML, GPA: 8.53

Dehradun, India
August 2020 - May 2024 (Expected)

Indian School Muscat

CBSE Senior School Certificate Examination Class XII, Aggregate: 95.6%

Muscat, Oman

April 2020

Indian School Muscat

CBSE Secondary School Examination Class X, Aggregate: 92.8%

Muscat, Oman

April 2018

Experience

Belle II Grid Computing and R&D Intern

High Energy Accelerator Research Organisation (KEK)

March 2023 - Present

Remote (Tsukuba, Japan)

- Collaborating with global research institutions on the Belle II experiment, employing basf2, GitLab, and Jira.
- Ensuring seamless data exchange among international collaborators, optimizing BelleDIRAC framework for efficient particle accelerator simulations.
- Key focus on enhancing performance of the global Belle II grid infrastructure.

Machine Learning Engineer Intern

IBM

June 2023 - September 2023

Bengaluru, India

- Contributed to IBM's innovative deep learning music composition project.
- Collaborated closely with executives, conducting extensive research on time-series analysis and music theory.
- Implemented and fine-tuned generative models using recurrent neural networks (RNNs) and generative adversarial networks (GANs).

NLP Research Intern

UPES

January 2023 - September 2023

Dehradun, India

- Conducted advanced Transformer research for text processing at UPES.
- Integrated OpenAI's GPT-3 API into a comprehensive web app.
- Developed a REST API using Flask, connecting seamlessly with a React-based front-end for interactive text processing.

Data Engineer Intern

Rawal Genomic Labs

August 2022 - January 2023

Delhi, India

- Implemented DNA Scanner web app at Rawal Genomic Labs.
- Compared DNA synthesis feasibility, price, and turnaround time across vendors.
- Developed and maintained bio-informatics modules, integrated into the lab's pipeline.

Data Analyst Intern

SSL

July 2022 - August 2022

Muscat, Oman

- Developed a software-as-a-service content management system at SSL, handling high-velocity data.
- Utilized QlikSense Enterprise for multi-stream complex data models.
- Explored strategies to minimize the complexity of information retrieval.

Projects

What's Up Doc? - Language Agnostic Code Documentation

Python, TensorFlow, Transformers, Git

- Automated code documentation using Python CLI and integrated language models.
- Contributed insights and optimizations to open-source Hugging Face models.
- Demonstrated proficiency in fine-tuning and quantizing large language models.

Splice and Dice - Text Summarization with Transformers

Python, PyTorch, Streamlit, Git

- Modularized multi-source text summarization with fine-tuned transformers.
- Implemented various state-of-the-art transformers for text processing.
- Experimented with image segmentation and auto-encoders.

Bulletin - Project Management in Neovim

Neovim, Lua, Linode, Shell Scripting, GitLab

- Built a Neovim plugin for project management and bug tracking.
- Developed logic to intelligently parse compiler messages and log file paths.
- Experimented with Neovim config support for Language Server Protocol (LSP) in Lua.

Filter Coffee - Digital Filter

C++, CMake, JUCE, Git

- Implemented digital signal filters in C++ for optimal efficiency.
- Conducted a comparative analysis on different data structures.
- Developed the project into a real-time visualizer using the JUCE C++ framework.

Echelon - Collision Engine

C++, CMake, Unity, Git

- Developed a physics engine in C++, integrated into Unity for simulating collision mechanics.
- Gained hands-on experience in Unity for realistic physics simulations.

Skills

Programming Languages: Python, C/C++, Lua, Rust, SQL (MySQL), JavaScript, HTML/CSS, R

Frameworks: TensorFlow, PyTorch, Node.js, Flask, FastAPI, Processing, p5.js

Developer Tools: Linux, NVIM, Linode, Git, Docker, VS Code, \LaTeX

AI/ML: Transformers, Pandas, NumPy, Matplotlib, Seaborn, TensorFlow, Keras, PyTorch, Sklearn, nltk

Languages: Tamil (native), Kannada (native), English (proficient), Hindi (proficient), French (intermediate)

Awards and Honors

Academic Excellence Award, UPES

2021

Academic Merit Award, Indian School Muscat

2020