

## VIVEK MATHUR

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[GitHub](#) | [Linkedin](#)

## EDUCATION

**International Institute of Information Technology**

Hyderabad | Sep'20 - Present

B.Tech &amp; MS(Research) - Computer Science &amp; Engineering and Computational Natural Sciences

**CGPA: 8.06**

## COURSEWORK

Data Structures and Algorithms in C, Statistical Methods in AI, Operating Systems and Networks, Advanced Natural Language Processing, Design and Analysis of Software Systems, Algorithm Analysis and Design, Machine Data and Learning, Computer Systems Organization, Computational Social Science, Music, Mind and Technology, Molecular Modeling and Simulations, Automata Theory, Data and Applications, Linear Algebra, Discrete Structures, Real Analysis, Probability and Random Processes

## EXPERIENCE

**-Facillima | NLP Engineer-LLMOPS Dev I Intern**

Delhi | May'23 - July'23

- Spearheaded the R&D initiatives on the LLMFinance Project, innovating Novel State of the Art business solutions for MultiFile Multimodal AI enabled Data Analytics, resulting in a significant revenue surge by INR 5 LPM.
- Leveraged Open Source LLMs(MPT-7B, Falcon-40B), Langchain, Tensorflow, HuggingFace Transformers(Backend), Azure, Docker(Hosting), Streamlit(Frontend), SQL(RDBMS) and other Emerging Technologies (ChromaDB,Python,Pandas) to architect SECURE, PRIVATE programs. Orchestrated a team of 3 people, imparting Data Processing and LLMOPS and MLOPS skills to other employees under guidance of **Mr. Samir Gupta**.

**-IIT Delhi - DMSE | Research Intern - IASc, INSA, NASI Summer Research Fellowship**

Delhi | May'22 - July'22

- Engineered a Full Stack Software/ Hardware Interface for Materials Science Electronics Equipment in the Electronic Materials Laboratory (Under **Prof. Nirat Ray**), amplifying Research output speed by 35%.
- Utilized Data Processing Fundamentals and harnessed the Igor-Pro Software, successfully diminishing query time by 10%.

**-MetaLok | Software Engineering**

Hyderabad | March'22 - May'22

- Revamped the backend for the Sportsverse Project at Metalok, escalating Throughput by 25%. Applied the Solidity framework and Machine Learning (Neural Networks) techniques, augmenting coverage by 15% and spearheaded a team of three junior interns.
- Innovated the frontend for webpages for the Sportsverse project, resulting in a 20% surge in Ad Revenue.

## PROJECTS / OPEN-SOURCE

**LegalPDFChat-AI powered Legal Document Assistant | [Link](#) | *Tensorflow, Python3, LangChain, HuggingFace***

- Architected a legal-centric AI chatbot utilizing OS-LLMs (Apache 2.0 License), extracting nuanced insights from documents with ensured data privacy, reliability, and source citation. Skillfully amalgamated cutting-edge technologies, bolstering performance and user-centricity, fortifying a secure platform for delicate legal data. Using Transformers, VectorStores, CUDA, ngrok.

**Tweet Plugin | [Link](#)***Javascript, TensorflowJS, TailwindCSS, NodeJS, Yarn, PostMan*

- Designed and implemented a serverless Chrome extension using Keras on AWS with TensorflowJS integration, enabling REST API calls to ML models hosted on AWS, ensuring efficient frontend functionality for estimating tweet virality trustworthiness, sentiment, and potential controversy of tweets before posting, enhancing user decision-making process, under guidance of **Ponnurangam Kumaraguru "PK" @ponguru**.

**C - Shell | [Link](#)***ANSI-C, Unix System Calls*

- Implemented a custom Unix/Linux shell in C with features like I/O redirection, piping, and process management. Built user-defined commands for directory navigation and file listing, integrated networking for fetching man pages, and ensured robust error-handling.

## SKILLS

**ProgrammingLanguages:** C, C++, Java, Javascript, Python, Linux BASH**Libraries/Frameworks:** React, React Native, Bootstrap, VueJS, AngularJS, BioPython, Numpy, Pandas, PyGame, Tensorflow, TensorflowJS**Tools / Platforms:** Git, La-Tex, Canva, AWS, Docker, Nginx, SLURM nodes, ADA , VMD, NAMD, Quantum Espresso, Gaussian16 (Computational Materials Sciences)**Databases:** MongoDB, FireBase, MySQL

## CERTIFICATIONS

- Generative AI for LLMs - **DeepLearning.AI**
- LangChain for LLM Application Development - **DeepLearning.AI**
- Game Development 101 - GD 50 - CS 50 - **Harvard Extension School**
- KVPY | SA (Gen) | 2018 - **IISC**

## POSITIONS OF RESPONSIBILITIES, HONORS &amp; AWARDS

**Member of Student Parliament** , 2023-24 at IIIT-H.**Teaching Assistances-** Topics in Nanosciences (*current*),DSA - Data Structures and Algorithms , SLII - Science Lab II, DSM - Digital Systems and Microcontrollers**Apex Committee Member** at IIITH - 2021 to 2022Google Student Developer Club IIIT-H - 2021-22, **Lead Android Developer**

Organised my College's fest - FELICITY - in 2021