Naman Omar

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Education

IIIT Kottayam **2022 – 2026**
BTECH in Computer Science with specialization in AI and Data Science *CGPA:9.38* *Kottayam, Kerala*

Experience

Bridge Connecting Solutions **May 2024 – July 2024**
Research Intern *Remote*

- Engineered a software prototypes and conduct research in area of **Sign Language Processing** and work on training fine-tuning, and deploying **Deep learning models**
- Engineered deep learning models for sign language processing achieving **90 percent accuracy** in gesture recognition
- Architected and Deployed a web application using **React FrameWork** to demonstrate the workflow of the software prototype

Lanoviz **Sept 2023 – Dec 2023**
Software Developer Intern *Remote*

- Led the development of a **responsive inventory management** system, building a website and mobile application for iOS and Android using **React** and **Flutter**.
- Integrated **Google Firebase** for **real-time data synchronization**, ensuring consistent and up-to-date inventory management across web and mobile platforms.
- Optimized and deployed the application on **Point of Sale (POS)** systems, improving real-time inventory tracking and streamlining operations at retail locations.

Projects

MedInsight | *Python, LangChain, FAISS , HuggingFace , LLM* **January 2025**

- Developed a **Retrieval-Augmented Generation (RAG)** model for medical knowledge retrieval, achieving **90 percent accuracy** in relevant information retrieval.
- Integrated **FAISS-based vector search with Mistral-7B**, optimizing response generation time to under 2 seconds per query.
- Designed for clinical decision support, medical education, and patient information retrieval, enhancing **medical query precision by 30 percent**

Facial Demographics Prediction System Using Deep Learning | *Python, TensorFlow, Keras* **September 2024**

- Evaluated multiple state-of-the-art pre-trained CNN architectures such as **VGG16, ResNet50V2, Xception, and InceptionV3** for feature extraction, followed by fine-tuning for demographic predictions
- Achieved a robust model performance with a **90 percent training accuracy, 88 percent test accuracy, and 87 percent validation accuracy**, showcasing exceptional stability with only a 1 percent variance between validation and test metrics.

Plant Disease Recognition | *Python, TensorFlow* **July 2024**

- Designed and implemented a highly accurate **Convolutional Neural Network (CNN)** model to detect and classify diseases in plant leaves.
- Developed an intuitive user interface enabling seamless uploading of plant leaf images for analysis
- Achieved an impressive **98.13 percent accuracy**, effectively identifying and predicting plant diseases with high precision.

Technical Skills

Programming Languages: Python, C, C++, JavaScript
Web Technologies: HTML, CSS, REST APIs , ReactJS, NextJS, Tailwind CSS, Node.js, Express, Material-UI, Django
Developer Tools: VS Code, Eclipse, Google Cloud Platform, Android Studio, Git
Databases: MySQL, PostgreSQL, MongoDB,Firebase
Machine Learning and Deep Learning: TensorFlow, PyTorch, Scikit-Learn, OpenCV, LangChain , FAISS
Technologies/Frameworks: Linux, GitHub, WordPress, Docker
Soft Skills: Team Collaboration, Problem Solving, Time Management

Extracurricular

- Solved 200+ unique problems on **LeetCode**
- Lead **AI and Data Science Department** at BetaLabs, IIIT Kottayam, showcasing expertise in artificial intelligence, and data analysis
- Supervised the **art society** as sub-lead at IIIT Kottayam, organizing and leading multiple events .
- First Prize Winner **1st** in Apoorv, Inter College AI/ML Hackathon conducted by IIIT,Kottayam