AISHWARYA BABU

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⌱ GitHub Profile
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EXECUTIVE SUMMARY

M-Tech student with a deep passion for Artificial Intelligence, constantly exploring the evolving landscape of AI, deep learning, and machine learning. Equipped with strong problem-solving abilities, willingness to learn, and excellent communication skills. Poised to contribute to team success and achieve positive results. Ready to tackle new challenges and advance organizational objectives with dedication and enthusiasm.

EDUCATION

•**Master of Technology in Artificial Intelligence and Machine Learning** *2024-present*
  Vellore Institue of Technology

•**Bachelor of Technology in Electronics and Communication Engineering** *2018-22*
  College of Engineering Chengannur, Under APJ Abdul Kalam Technological University

•**12th** *2017-18*
  Kerala School, Canning Road, NewDelhi

PERSONAL PROJECTS

•**AI Assistive Tool for Visually Impaired – GenAI & CV-powered Aid**

Built using OpenCV, YOLOv5, Tesseract OCR, TTS, Transformers, Python.

– Designed an AI system to assist visually impaired users through scene explanation via image-to-speech using CV and TTS.
– Used YOLOv5 for real-time object/obstacle detection and OpenCV + OCR for text recognition from surroundings.
– Integrated transformer-based models for contextual audio output and personalized voice feedback.

•**Career Coach AI – GenAI-powered Career Assistant**

Built using LLMs (OpenAI/Ollama), LangChain, LangGraph.

– Built an NLP-driven assistant to analyze resumes, match jobs (via APIs/semantic search), and generate personalized interview Q&A.
– Integrated FAISS for vector-based resume–job matching and used LangChain memory for context tracking.
– Used custom prompt engineering and LangGraph workflows to simulate mock interviews and career advice flows.

•**Emotion Detection Pipeline using NLP & ML**

Built using Python, scikit-learn, DVC, Pandas, NLP.

– Built an end-to-end ML pipeline for emotion classification from social media text using Random Forest.
– Applied NLP preprocessing, feature engineering (TF-IDF), and automated model evaluation.
– Integrated DVC for data/model versioning and reproducible experiments.

•**Agentic AI: Personal Assistant**

– By combining multi-model AI this project uses Retrieval-Augmented Generation (RAG), Lang-Graph for workflow management, and ChromaDB as vector storage, it efficiently searches and generates context aware outputs.

EXPERIENCE

•**Emertxe Certified Embedded Professional** *Oct 2022 - Aug 2023*
  Emertxe,Banglore On-site

Hands-On Technical Training Program

Linux & Shell Scripting

– Strong focus on Linux command-line tools, scripting (shell, vim), redirection and pipes to automate workflows.

Embedded Coding & Microcontrollers

– Embedded-C programming on PIC and ARM microcontrollers, including GPIO, timers, interrupts, communication protocols and developing firmware to bring hardware up from scratch.

Advanced C & C++ (OOP)

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Data Structures & Algorithms (DSA)

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Linux Internals & Networking

– Exploration of Linux kernel internals, synchronization, IPC, threads, and socket-level TCP/IP programming in embedded environments.

CERTIFICATIONS

–**Generative AI with Large Language Models**
  issued FEB 2025
–**Emertxe Certified Embedded Professional**
  issued JUNE 2023
–**B&C Certificate, National Cadet Corps(Navy)**
  issued JAN 2022

TECHNICAL SKILLS AND INTERESTS

Programming Languages: C/CPP, Java, Python, SQL

Machine Learning & Deep Learning

Natural language processing

Large Language Models

Model development

GIT

DVC

Soft Skills: Problem Solving, Research & Innovation, Self-learning, Presentation, Adaptability, Collaboration, Technical Communication

LANGUAGES

English

Hindi

Malayalam

Tamil