

DHARANESWARAN S

📍 Tirupur, Tamil Nadu ✉️ dharaneshwaransaravanan@gmail.com 📞 +91 6369965934

LinkedIn: linkedin.com/in/dharaneswaran-s-3b5524270

GitHub: github.com/DharaneswaranS

PROFESSIONAL SUMMARY

Backend-focused M.Tech Computer Science student with strong Python programming skills and hands-on experience in Machine Learning, NLP, Deep Learning, and Generative AI. Completed intensive GenAI training covering Transformers, GPT models, Retrieval-Augmented Generation (RAG), AI Agents, LangChain, Hugging Face, and Model Context Protocol (MCP). Built end-to-end AI applications including RAG-based chatbots, vector search systems, Word2Vec embeddings, intent classification, sentiment analysis, and multimodal pipelines (OCR, text-to-image, text-to-speech). Experienced in Flask, MySQL, REST APIs, embedding models, similarity search (MMR), and AI-integrated backend systems. Strong understanding of prompt engineering, transformer architecture, sequence models, and deployment-ready AI workflows. Seeking an entry-level Software Developer / AI Backend Engineer role to build scalable, production-grade AI systems.

TECHNICAL SKILLS

- **Programming Languages:** Python, SQL
 - **Backend Technologies:** Flask, FastAPI
 - **Libraries & Frameworks:** LangChain, LangGraph
 - **Databases:** MySQL, PostgreSQL
 - **Web Technologies:** HTML, CSS
 - **Tools:** GitHub, Postman
-

PROJECTS

Unified RAG Knowledge Assistant

- Built a Retrieval-Augmented Generation (RAG)-based AI assistant to answer queries from PDF, JSON, and text documents.
- Implemented document ingestion, chunking, embedding generation, vector indexing, and similarity search (Top-K/MMR) integrated with LLM-based response generation.

Tech Stack: Python, LangChain, Hugging Face, Flask, Vector Database

Key Skills: RAG Architecture, Embeddings, Semantic Search, Prompt Engineering, LLM Integration

GitHub: github.com/DharaneswaranS/Unified_RAG

AI-Based Passport KYC Automation System

- Developed an AI-powered passport verification system using YOLOv8 for region detection (MRZ, photo, signature) and EasyOCR for text extraction.
- Implemented image preprocessing (grayscale conversion, binarization, denoising) to improve OCR accuracy.
- Optimized the pipeline using in-memory image handling to enhance performance and stability.
- Improved OCR accuracy by 18% using preprocessing pipeline.

Tech Stack: Python, Flask, YOLOv8, OpenCV, EasyOCR

GitHub: github.com/DharaneswaranS/Passport-Verification-System

PDFGPT

- Developed an AI-powered PDF question-answering system that enables users to extract context-aware insights from uploaded documents.
- Implemented text extraction, chunking, embedding generation, vector storage, and semantic search integrated with LLM-based response generation.

Tech Stack: Python, LangChain, Hugging Face, Flask, Vector Database

Key Skills: NLP, Embeddings, RAG Pipeline, Semantic Search, Prompt Engineering, LLM Integration

GitHub: github.com/DharaneswaranS/pdfgpt

AI Multi-Tool Agent with Retrieval-Augmented Generation (RAG)

- Developed an AI assistant capable of dynamically invoking multiple tools and retrieving contextual knowledge from a vector database using a LangGraph-based agent architecture.
- Implemented a Retrieval-Augmented Generation (RAG) pipeline with document ingestion, chunking, HuggingFace embedding generation, FAISS vector indexing, and semantic search for answering domain-specific queries.
- Integrated multiple external APIs including OpenWeather (weather data), CoinGecko (cryptocurrency prices), and NASA Astronomy API, enabling real-time information retrieval alongside knowledge base responses.
- Designed a modular backend architecture with tool orchestration, environment-based API key management, and scalable integration of new tools and data sources.

Tech Stack: Python, LangChain, LangGraph, FAISS, Hugging Face Embeddings, Groq LLM, REST APIs

Key Skills: RAG Architecture, AI Agents, Tool-Calling LLMs, Semantic Search, Vector Databases, Prompt Engineering

GitHub: github.com/DharaneswaranS/ai-multi-tool-agent-rag

EXPERIENCE

Full Stack Developer Intern, Duo Dev Technologies

February 2025 – March 2025

- Completed hands-on training in Full Stack Development, working with HTML, CSS, JavaScript, and PHP for backend development with database connectivity.
- Utilized Bootstrap for responsive and modern UI design.
- Actively contributed to projects and consistently delivered high-quality work, earning recognition as one of the top performers during the internship.

GenAI Developer Intern, AboveCloud9 AI

February 2026 – March 2026

- Completed a Generative AI internship focused on building production-ready LLM applications. Gained hands-on experience in Transformers, GPT models, RAG architecture, Prompt Engineering, AI Agents, and vector search (Top-K/MMR).
- Built end-to-end RAG pipelines with document ingestion, embeddings, and LLM-based response generation using Hugging Face and LangChain.

Key Skills: Generative AI, LLM Integration, RAG, Embeddings, Semantic Search, Python

EDUCATION

Erode Sengunthar Engineering College
AVP Trust Senior Secondary School (CBSE)
AVP Trust Public School (CBSE)

M.Tech – CSE (Integrated)
HSC
SSLC

CGPA: 8.80
Percentage: 75
Percentage: 84

CERTIFICATIONS

- Introduction to Python – Infosys Springboard (24H)
 - SQL Certification – LinkedIn Learning
 - Python for Data Science – Infosys Springboard (16H)
 - Model Context Protocol Certification – Anthropic
 - Python and Flask Framework for Complete Beginners – Udemy (Horizon Tech)
 - Software Project Management – NPTEL (Elite, 67%)
 - Complete RAG Bootcamp – Udemy (Data Science Academy)
-

ACHIEVEMENTS

- Won 2nd Prize at Nandha Engineering College – Site Sprint (Create a Website in One Hour)
 - Achieved NPTEL Elite Rank in Software Project Management
-