

NAVEEN P

AI/ML Engineer · Computer Vision & NLP · End-to-End ML Systems · 2× Hackathon Prizewinner

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PROFESSIONAL SUMMARY

AI/ML Engineer with hands-on experience building and deploying end-to-end machine learning systems across computer vision, NLP, and LLM integration. Proficient in PyTorch, TensorFlow, HuggingFace Transformers, and Scikit-learn with applied work spanning BERT fine-tuning, YOLO-based object detection, RAG pipelines, and real-time inference systems. Strong foundation in deep learning, CNNs, and Transformers; experienced across the full model lifecycle from data preprocessing and feature engineering to training, evaluation, and deployment. 2× hackathon prizewinner with a track record of shipping AI-powered products under tight deadlines. Actively building expertise in MLOps and scalable AI systems.

TECHNICAL SKILLS

Languages	Python, JavaScript, TypeScript, SQL, Java, Dart, HTML/CSS
Frontend Development	React.js, Next.js, TypeScript, Tailwind CSS, Responsive UI Development, Dashboard & Admin Panel Development
Backend & APIs	FastAPI, Flask, Node.js, Express.js, REST API Design, API Integration, Authentication Workflows, Workflow Automation
ML & AI Frameworks	PyTorch, TensorFlow, Keras, Scikit-learn, XGBoost, HuggingFace Transformers, LangChain, NLTK, spaCy
LLMs & AI Tools	GPT, BERT, Prompt Engineering, RAG Pipelines, LLM API Integration, AI Chatbots, Voice AI Concepts, Agentic AI Workflows, Claude, ChatGPT, Cursor, AI-Assisted Development Workflows
Data Science	NumPy, Pandas, Matplotlib, Plotly, Feature Engineering, Exploratory Data Analysis, SHAP, Data Preprocessing
Databases	PostgreSQL, Firebase Firestore, Redis, SQLite
Cloud & Deployment	Docker, Vercel, Basic Cloud Deployment, Streamlit Deployment, Model Deployment
Dev Tools	Git, GitHub, VS Code, Jupyter Notebook, Google Colab, Postman

EDUCATION

B.Tech in Artificial Intelligence and Data Science

2022 - 2026

MES College of Engineering, Kuttippuram, Kerala — APJ Abdul Kalam Technological University

ACHIEVEMENTS & RECOGNITION

- **2nd Prize — MATRIX Hackathon (30-hour)**, CSE Dept., MES College of Engineering. Designed, built, and shipped a complete full-stack product from zero within a single 30-hour session, placing above 20+ competing teams — demonstrating rapid prototyping and end-to-end delivery under pressure. [\[Post\]](#)
- **3rd Prize — KOTECH Tech Hackathon** (July 2025), Qismat Foundation with Kottakkal Municipality. [\[Post\]](#)
- **Workshop Facilitator (ADTEC Program)** — Led a hands-on AI coding workshop for 20+ junior students covering LLM tools, prompt engineering, and practical AI-assisted development workflows. [\[Post\]](#)

PROJECTS

Enterprise RAG Knowledge Assistant — LLM Retrieval System

Stack: Python, LangChain, OpenAI API, ChromaDB, Sentence Transformers, FastAPI

- Built a **Retrieval-Augmented Generation (RAG)** system enabling users to query large document collections using natural language while grounding responses in retrieved context.
- Implemented **embedding-based semantic search** using Sentence Transformers and ChromaDB vector indexing for context-aware information retrieval.
- Developed an end-to-end pipeline covering document chunking, embedding generation, vector storage, retrieval, prompt orchestration, and FastAPI deployment.

Clickbait Detection System — NLP Web App

[\[GitHub\]](#)

Stack: Python, Scikit-learn, TF-IDF, Flask/Streamlit, NLP Pipeline

- Developed an NLP-based text classification model for identifying clickbait content from news headlines.

- Implemented preprocessing, TF-IDF feature extraction, model training, evaluation, and deployment through a Streamlit interface.

AI Resume Screener — NLP Candidate Matching System

Stack: Python, BERT, spaCy, FastAPI, Scikit-learn, Streamlit

- Built an **AI-powered resume screening platform** that ranks candidates against job descriptions using BERT embeddings and semantic similarity scoring.
- Engineered an NLP pipeline for PDF extraction, skill identification, named entity recognition, and automated candidate ranking.
- Developed a web-based interface for real-time resume analysis and candidate shortlisting.

Movie Seat Manager — High-Concurrency Booking Backend

[\[GitHub\]](#)

Stack: .NET 8, PostgreSQL, Redis, Distributed Systems, REST APIs

- Built a **production-grade concurrent booking backend** engineered to handle race conditions via distributed locking and idempotency keys — preventing double-bookings under high-traffic loads.
- Implemented **ACID-compliant PostgreSQL transactions** and Redis-based session caching using cache-aside patterns, with connection pooling and transaction isolation for reliability at scale.
- Demonstrates systems design depth: applicable directly to e-commerce, SaaS, and any high-concurrency service scenario.

Crowd Detection & Density Estimation System

[\[GitHub\]](#)

Stack: Python, OpenCV, YOLO Object Detection, Video Processing

- Developed a **real-time video analysis system** for crowd density estimation from live or recorded feeds — practical application for public safety and smart city scenarios.
- Integrated **YOLO-based object detection** as a processing module with configurable alert thresholds and frame annotation for actionable output.

NutriSense AI — Flutter Mobile Health App

[\[GitHub\]](#)

Stack: Flutter, Dart, Firebase, Groq LLM APIs, Riverpod, Push Notifications

- Building a **cross-platform health app** in Flutter with Firebase backend and clean Riverpod architecture; integrating Groq LLM API for AI-powered nutrition analysis as a modular service layer.
- Implementing push notifications, medical records screen, and full user authentication — production-grade feature set targeting app store release.

Clickbait Detection System — NLP Web App

[\[GitHub\]](#)

Stack: Python, Scikit-learn, TF-IDF, Flask/Streamlit, NLP Pipeline

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CERTIFICATIONS

- **Work Meets Play: Expressive Efficiency** — Google Cloud Skills, May 2026 (Docker, Kubernetes, IAM, Cloud Storage, Monitoring)
- **The Basics of Google Cloud Compute** — Google Cloud Skills, 2025 (Compute Engine, Virtual Machines, Persistent Disks)

EXPERIENCE

Technical Software Developer (Freelance)

Guido | 2026

- Developed and delivered custom software solutions and web-based applications based on client requirements and project specifications.
- Participated in the complete software development lifecycle, including requirement gathering, development, testing, debugging, and deployment.
- Provided technical support, feature enhancements, and maintenance to ensure reliable performance and user satisfaction after delivery.

AREAS OF INTEREST

Machine Learning & Deep Learning · Natural Language Processing · Computer Vision · Full-Stack Web Development · AI-Integrated Software Products · MLOps & Model Deployment · Backend Systems & API Design · Large Language Models & RAG Systems

SOFT SKILLS

Analytical Thinking & Problem Solving · End-to-End Ownership · Research Aptitude & Self-Learning · Technical Communication & Documentation · Cross-Functional Collaboration · Rapid Prototyping & Fast Execution · Attention to Detail · Adaptability Across Domains & Technologies

LANGUAGES

English (Professional) · Malayalam (Native) · Hindi (Conversational) · Tamil (Conversational)