

NIVEDH MANOJ

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[GitHub](#) | [LinkedIn](#) | [Portfolio](#)

AI & ML Engineering student (B.Tech, SRIHER) specializing in full-stack development, deep learning, and applied AI. Experienced in building production-grade applications with React, Node.js, Next.js, and PyTorch. Proven expertise in RAG systems, NLP, computer vision, agentic AI, and low-resource language modeling.

EDUCATION

B.Tech in Artificial Intelligence & Machine Learning | CGPA: 9.291/10 | 2023–2027

Sri Ramachandra Institute of Higher Education and Research (SRIHER), Chennai

TECHNICAL SKILLS

Languages: Python, JavaScript, TypeScript, SQL, HTML/CSS

Frameworks & Tools: React.js, Next.js, Node.js, Express, FastAPI, Tailwind CSS, REST APIs, Git

Databases: MongoDB, PostgreSQL

AI & ML: PyTorch, TensorFlow, Scikit-learn, LLMs, GenAI, NLP, Computer Vision, Agentic AI, RAG, MLOps.

INTERNSHIPS

AI/ML Intern | Violavizn Technologies | Remote | Dec 2025 – Jan 2026

- Developed AdSwift, a full-stack Agentic AI SaaS MVP automating Google Ads creation via Next.js and Gemini LLM.
- Engineered high-performance web scraper using Python (Crawl4AI) and Playwright to extract structured business data in real-time.

AI/LLM Research Intern | Deffo Tech Private Limited | Remote | May 2025 – Jun 2025

- Engineered Transformer-based English-Tamil NMT model from scratch using PyTorch for low-resource language translation.
- Built custom NLP pipeline for Named Entity Recognition (NER) and POS tagging without pretrained models.

TECHNICAL PROJECTS

Agx-RAG - Graph-Augmented Explainable RAG System | *TypeScript, Knowledge Graphs, LLMs*

- Architected an Adaptive Graph-Augmented RAG system for multi-domain intelligent question answering.
- Integrated knowledge graph traversal with semantic retrieval to produce explainable, grounded AI responses across diverse domains.

Approval Workflow Management System | *React 18, Node.js, MongoDB, OpenAI API, Tailwind CSS*

- Built full-stack enterprise-grade approval system with role-based access control (CREATOR/APPROVER), team-scoped request routing, and AI-assisted validation workflows.
- Implemented JWT authentication, bcrypt password hashing, rate limiting, budget tracking, and revision workflows; deployed on Vercel + Render.

Voice Analysis Assistant | *Python, Flask, Librosa, Reinforcement Learning*

- Built an offline voice therapy app that analyzes acoustic features (pitch, jitter, shimmer) from patient recordings and provides therapeutic feedback.
- Implemented a Q-learning agent that adapts exercise difficulty based on patient performance over time.

RetinaScan AI - Multi-Disease Retinal Screening System | *Python, PyTorch, EfficientNet-B2, Flask, React, SHAP*

- Built a retinal disease screening app using EfficientNet-B2 with SE+CBAM attention, trained on the RFMiD dataset to detect 46 conditions from fundus images.
- Added Grad-CAM and SHAP explainability layers with a hybrid SVM+RF+DL ensemble, deployed as a full-stack clinical web application with real-time PDF report generation

ACHIEVEMENTS & LEADERSHIP

- Finalist, ANOKHA AI-Verse Hackathon - Pitched Agentic AI solutions for enterprise automation at Amrita University.
- Secretary, ML Club (2025-2026) - MC for club events; hosted Ideathon, AI Quizzes, and Debates.
- Student Council (2025-2026)- Facilitated student-faculty coordination across departments.

CERTIFICATIONS

MongoDB CRUD Certification | IBM SKILL- Artificial Intelligence Fundamentals | AWS Educate -Introduction to Generative AI | NPTEL – Introduction to LLM | Anthropic - Introduction to Model Context Protocol