

# ASWIN MATHEW

Computer Science Engineering Student / Aspiring AI/ML Engineer

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## SUMMARY

Enthusiastic AI/ML student with a strong foundation in **Machine learning, AI agents, and LLMs**. Proficient in **Python, PyTorch, LangChain and prompt engineering**. Passionate about **multi-agent systems, Retrieval Augmented Generation (RAG), and autonomous AI applications**. Seeking an internship to apply skills, collaborate on innovative projects, and grow in the AI space.

## EXPERIENCE

### Acsia Technologies

Cochin, India

Software Engineer

2023 - 2024

- Worked on High-Level Operating Systems (HLOS) and performance optimization, ensuring efficient resource utilization and system responsiveness.
- Optimized system performance by analyzing bottlenecks and improving execution efficiency, skills that are crucial for AI model inference and real-time decision-making.
- Developed and optimized software solutions that required a deep understanding of memory management, CPU utilization, and parallel processing, which are highly relevant for AI workloads.
- Collaborated with cross-functional teams to enhance system performance, a critical aspect when working with AI models in resource-constrained environments.

## PROJECT

### PDF to Podcast • [GitHub](#)

- Developed an AI-powered pipeline that converts PDFs into podcasts, making content more accessible.
- Built using LangGraph to manage structured workflows for text processing.
- Utilized PyPDF for extracting text from PDFs and Suno Bark for high-quality text-to-speech conversion.
- Integrated Together's LLaMA for summarization and content enhancement.

### Multimodal RAG for PDF • [GitHub](#)

- Designed a retrieval-augmented generation (RAG) system capable of extracting and processing text, images, and tables from PDFs.
- Used Unstructured for document parsing and Gemini embeddings for semantic search.
- Implemented ChromaDB as a vector store and LangChain MultiRetriever to improve response accuracy.

### AI Personal Tutor • [GitHub](#)

*Project currently under development with ongoing progress\*\**

- Building an intelligent tutoring agent that structures personalized courses from syllabus PDFs and reference materials.
- Implements multimodal RAG to retrieve text, images, and tables from study materials.
- Uses text-to-speech (TTS) and speech-to-text (STT) to enable interactive learning sessions.
- Designed to teach concepts, ask questions, and evaluate students dynamically.
- Built with LangChain, LangGraph, Suno Bark, and Streamlit for an intuitive UI.

## ACHIEVEMENTS & CERTIFICATIONS

- **Hugging Face Agents Course**

03/2025

[Certification for completion of Fundamentals of Agents](#)

## EDUCATION

### Govt Polytechnic College Mananthavady

Wayanad, Kerala, India

Diploma In Computer Engineering

2021 - 2023

- Successfully completed a Diploma In Computer Engineering.
- Achieved a CGPA of **8.62**.

### Cochin University College of Engineering (CUSAT)

Alappuzha, Kerala, India

B-Tech in Computer Science and Engineering

2024 - Present

## SKILLS, INTERESTS & LANGUAGE

**Skills:** C /C++ | Python | Pytorch | LangChain | LangGraph | Machine Learning & AI | ChromaDB | Natural Language Processing (NLP) | Teamplayer | Presentation | Data Engineering | Retrieval Augmented Generation | Computer Vision | OS | Linux | Data Analysis | Embedded Systems |

**Interests:** Film, Gaming, Reading

**Language:** Malayalam (5/5), English (4/5), Tamil (2/5), Hindi (3/5)