

# Aswathy Lofy Raj

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## Professional Summary

Passionate AI/ML developer with practical experience in LLM-based APIs, machine learning pipelines, and real-time model deployment. Proficient in Python, FastAPI, and data analytics. Strong at turning research and data into usable systems with an analytical and collaborative mindset.

## Experience

### Machine Learning Intern – Tensaw Technologies

May 2025 – July 2025

- Developed and deployed LLM-integrated pipelines using FastAPI to automate structured data extraction from visual inputs.
- Built a predictive model using gradient boosting techniques to classify outcomes based on multi-feature healthcare datasets.
- Participated in team discussions and technical sessions to explore real-world ML deployment practices.

## Projects

### Mixture of Agents for Literature Review — FastAPI, Mistral-7B, OpenRouter

Automated academic paper summarization via LLMs and agent design; reduced review effort by 80%.  
Designed modular agents for search, filter, scoring, and summarization to ensure extensibility and clean architecture.

### YOLOv5 Real-Time Traffic Detection — YOLOv5, Python

Detected helmets, plates, and riders with 95% accuracy; included live violation logging.  
Integrated object detection into real-time traffic surveillance system using OpenCV and Python scripting.

### Emotion-Based Music Recommendation — OpenCV, CNN

Captured emotion through facial expression and recommended music dynamically.  
Trained CNN to classify emotions and mapped outputs to personalized music using Spotify API.

### Retail Revenue Dashboard — SQL, Power BI

Performed segmentation and KPI visualization for retail insight and business strategy.  
Used SQL joins and DAX to visualize performance metrics and automate executive summaries.

## Education

### MSc – Computer Science & Data Analytics

2023–2025

Digital University Kerala

### BSc – Physics

2020–2023

Vimala College, Thrissur

## Technical Skills

- Python, SQL, R
- CNN, RNN, BERT
- FastAPI, Streamlit
- Pandas, NumPy
- Power BI, Tableau
- Scikit-learn, OpenCV
- Git, Jupyter, Colab
- Prompt Engineering

## Certifications

Google Cloud – Data Analyst Track  
Google Cloud – Generative AI Track

## Languages & Soft Skills

**Languages:** English (Fluent), Malayalam (Native), Hindi (Intermediate)  
**Soft Skills:** Communication, Teamwork, Problem Solving, Adaptability