

Aswin Pradeep C

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Experience

Kireap

April 2025 - July 2026

Backend Engineer | FastAPI, Python, Algorithms | LangGraph, LLMs

Kochi, Kerala

- Built agentic pipelines using LangGraph - featuring autonomous tool-calling, sandboxed code execution, and self-correction loops for multi-step task completion.
- Cut latency on a CPU-bound dynamic pricing API from 9s to under 2s: profiled hotspots, parallelised computation with ProcessPoolExecutor, batched I/O with asyncio.gather, and added HTTP connection pooling, Redis caching, and exponential backoff with jitter.

Geojit Financial Services Ltd

Dec 2024 - March 2025

Machine Learning Intern – LLMs, Azure Cognitive Services

Kochi, Kerala

- Developed an LLM-based search system with RAG architecture for enhanced financial data retrieval.
- Automated and optimized manual processes with machine learning to improve efficiency.

Agua India

June 2024

Machine Learning Engineer Intern – OpenCV, YOLO, Mapbox

Kochi, Kerala

- Proposed and developed proof-of-concept implementations for AI-powered workflow optimizations.
- Built a prototype using OpenCV for automated coupon code extraction, using region-of-interest detection to filter out irrelevant text and streamline water delivery operations.

Projects

Picnix | LangGraph, Gemini, Google Maps, FastAPI | GitHub

- Built a day-trip AI planner on LangGraph orchestrating an 8-node agentic graph that turns a natural-language request into a sequenced, weather-aware itinerary.
- Designed an LLM-first pipeline - intent parsing, place search with relevance gating, route/isochrone building, and dwell-time optimization - with Arize Phoenix tracing for per-run observability and self-evaluation.

PitchMailer | Django, Celery, Redis, OpenAI API, Docker | GitHub

- Built an AI orchestration platform for automated personalized job outreach. Designed an LLM pipeline for context-aware email generation using retrieval-augmented company profiling.
- Architected async workflows with Celery and Redis for multi-stage AI tasks — company research, prompt chaining, and rate-limited email delivery. Containerized with Docker and automated deployment workflows.

Additional projects available on **GitHub**

Research Papers

Analyzing the Impact of Modulation Transfer Function (MTF) on Computer Vision: A Multi-Faceted Exploration

- Presented at International Conference on Computations and Data Science(CoDS-2024), IIT Roorkee
- The paper is accepted and set to be published on EquinOCS(Springer Nature).

Technical Skills

Programming Languages: Python, JavaScript

AI/ML: TensorFlow, LangGraph, RAG

Back-end Tech: Django, Node.js/Express.js, FastAPI

Databases: Postgres, MongoDB, Redis

Cloud Services/Platforms: Azure Cognitive Services, AWS EC2, Docker, Linux and Self-hosted deployments

Comfortable adopting new stacks as needed — current focus on Python/AI backend.

Education

Cochin University of Science and Technology

B.Tech in Computer Science and Engineering

2021 – 2025

First Class with Distinction