AMAN R KHANCHANDANI

Applied AI + Product Engineer Intern — RAG, Document AI, Agent Workflows, Full-Stack Systems

khanchandani.aman2605@gmail.com — linkedin.com/in/amankhanchandani — github.com/42amps

EDUCATION

Manipal Institute of Technology (MAHE) Manipal, India
B.Tech in Cyber Physical Systems Expected July 2027
Coursework: Data Structures and Algorithms, Deep Learning, NLP, IoT, Control Theory, Computer Architecture

INDUSTRY EXPERIENCE

AI Engineer Intern — Carnot Research Pvt Ltd @ IIT Delhi Delhi, India
May 2025 – Sep. 2025

- Built a Vision-RAG document retrieval pipeline that processed PDF pages as visual inputs, preserving layout-heavy information from tables, diagrams, and mixed-script documents often lost in OCR-first pipelines.
- Developed a LangGraph-based knowledge graph workflow with separate entity extraction, relation classification, and validation stages for converting unstructured text into graph-ready outputs.
- Designed a hybrid retrieval architecture combining FAISS vector search, Neo4j graph traversal, and Cuckoo Filter pre-filtering to reduce unnecessary search paths across large document collections.
- Authored internal technical deep-dives on ColPali, ColQwen, Donut, OCR benchmarking, and RAG evaluation to document architecture tradeoffs and model behavior.

SELECTED PROJECTS

BidMyTime — Full-Stack Booking Platform — Live App
Next.js 14, Tailwind CSS, Shadcn UI, Supabase, Razorpay

- Shipped a deposit-first scheduling product where professionals create paid booking links, collect commitment fees, and reduce no-show risk for high-value calls.
- Integrated Razorpay payments with webhook verification and Supabase PostgreSQL with Row Level Security; built creator discovery, custom booking links, and an earnings dashboard.

PayRail — Real-Time Payout Engine — Demo — Repo
Django, Django REST Framework, PostgreSQL, Django-Q, React, Vite, Tailwind CSS, Docker

- Built a payout engine demo for real-world banking payment flows, including merchant balances, payout requests, ledger history, and status tracking.
- Implemented append-only ledger accounting, idempotency keys, row-level locking, and explicit payout state transitions to prevent duplicate payouts and double-spend cases.
- Deployed a Dockerized full-stack demo bundling React/Vite into Django static files with PostgreSQL-backed background task processing.

Stateframe — File-First State Ledger for Long-Horizon Agent Workflows — Repo
Agent workflow infrastructure, durable task state, recovery design

- Built a file-first task-state ledger for long-running agent workflows, separating durable task state from memory, traces, and orchestration logic.
- Modeled current truth, change history, failures, retries, and next actions as inspectable state files so workflows can recover after interruptions.

CodeGraph — Graph-Based Codebase Understanding Tool
Python, PyTorch, Graph Neural Networks, AST/DFG Analysis, React

- Developing a repository graph that combines AST structure, data-flow relationships, and semantic code embeddings to help navigate Python/JavaScript codebases through learned structure.

RESEARCH EXPERIENCE

Undergraduate Researcher, Cryptography — MIT Manipal Jan. 2025 – Mar. 2025
Advisor: Prof. P. Nisha Shetty

- Implemented a hybrid IBE-HABE access-control prototype in Python using Charm for decentralized EHR permissioning; explored distributed key generation to reduce key-escrow risk while preserving role-based access control.

TECHNICAL SKILLS

Languages: Python, JavaScript, SQL, C/C++
AI/Agents/RAG: PyTorch, LangGraph, LlamaIndex, Vision Transformers, RAG pipelines
Web/Product: Next.js, React, Tailwind CSS, Django REST Framework, Supabase, Razorpay
Data/Infra: PostgreSQL, FAISS, Neo4j, Docker, Git, Linux