

Abhisek Mishra

Lead Software Engineer @ Emirates NBD

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PROFESSIONAL SUMMARY

I build AI systems that ship to production — not demos. At Emirates NBD, I designed and shipped an agentic automation platform for our RFI (Request for Information) process: 6 specialized agents orchestrated through 3 MCP servers and 15+ tools, integrated with 8 external services, with a safety-first architecture of circuit breakers and automated checkpoint recovery. It runs in a real bank, under real compliance constraints, used daily.

Right now I'm building in public: an AI-powered video clipping pipeline that turns long-form video into short-form clips automatically (LangGraph, FastAPI, FFmpeg), and a QLoRA fine-tune of a small language model, published end to end — data pipeline, training, evaluation, and deployment. I publish a working implementation of everything I learn — reading isn't understanding; building is.

The foundation under this is 13+ years of enterprise engineering: event-driven microservices, end-to-end banking journeys (customer onboarding, credit cards, personal loans), and leading teams without leaving the code. I've spent my career being the person who both talks to stakeholders and writes the implementation — production discipline plus frontier-AI fluency.

SKILLS

AI & Agentic Systems

Multi-Agent Systems, LangGraph, LLM Integration (Llama, GPT, Claude), AWS Bedrock, Model Context Protocol (MCP), Claude Code / Cursor, Playwright MCP

Frontend

React, Angular, JavaScript

Backend & Architecture

Node.js, TypeScript, Python, Event-Driven Microservices, Domain-Driven Design, GraphQL, MongoDB, Redis, Azure, OpenShift

Leadership & Practice

Solution Architecture, Engineering Mentorship, API Standards, CI/CD, Stakeholder Management

WORK EXPERIENCE

Lead Software Engineer

Emirates NBD | Jul 2019 — Present · Dubai, UAE

- Designed and shipped a **production**, multi-agent platform automating high-stakes banking RFIs (Sanctions Screening, AML, KYC): **6** specialized agents via LangGraph, **3** MCP servers exposing **15+** secure banking and compliance tools, safety-first architecture with circuit breakers across **8** external services and automated checkpoint recovery.
- Architected a **bank-wide** Claude Code plugin — CLAUDE.md context standards, reusable Skills, subagents, and hooks — to standardize Java-to-Node.js legacy service migrations with deterministic, review-consistent output; adopted across the engineering organization.
- Architected a highly scalable, event-driven microservices platform (Node.js, MongoDB, Redis) underpinning the bank's Tablet Banking, ATM servicing, and CRM systems.
- Championed Domain-Driven Design and service resiliency practices; mentored backend engineers on API standards, logging, and error-handling frameworks.
- Served as go-to backend lead for cross-squad collaboration, aligning architects, product owners, and QA with strategic objectives.

Full Stack Engineer

Xebia Inc. | Dec 2018 — Jun 2019 · Abu Dhabi, UAE

- Full-stack development and delivery across banking and enterprise client engagements, including financial-services platforms for Canadian Imperial Bank of Commerce (CIBC).
- Built an interactive remittance and precious-metals trading UI (Angular 4/AngularJS, Bootstrap) with RESTful Node.js/Express services and JWT-based authentication.

Full Stack Engineer

Tata Consultancy Services | Mar 2014 — Dec 2018 · Bhubaneswar, Odisha, India

- Delivered full-stack features across enterprise banking applications as part of long-running client engagements.

Frontend Engineer

Mindfire Solutions | Jul 2013 — Mar 2014 · Bhubaneswar, Odisha, India

- Started my engineering career building frontend features for enterprise client applications.

FEATURED PROJECTS

Unified RFI Management System

Emirates NBD

A production-grade, multi-agent platform automating high-stakes banking Requests for Information (RFIs) for Sanctions Screening, AML, and KYC.

- Orchestrated **6** specialized agents via LangGraph, with **3** MCP servers exposing **15+** secure banking and compliance tools to the LLM — question generation runs on Llama, with a GPT-based reflection agent critiquing and refining output before a human review gate.
- Engineered a safety-first architecture with circuit breakers across **8** external services and automated checkpoint recovery for long-running workflows.
- Integrated Playwright MCP for autonomous UI verification and regression testing of the RFI dashboard.
- Identified and remediated a prompt-injection vulnerability found in security testing — customer-controllable fields were being interpolated directly into the generation prompt — by treating those fields strictly as data and adding input validation.

LangGraph

MCP

Multi-Agent

Llama

GPT

Playwright

AI-Powered Video Clipping Pipeline

Independent — Live

A 4-node LangGraph workflow that converts long-form video into short-form clips automatically — deployed and live.

- Transcribe -> Identify Clips -> Detect Focus -> Render pipeline: FastAPI/Python backend using faster-whisper for transcription and FFmpeg for rendering.
- Next.js frontend with real-time progress streaming over SSE.
- GPT-4o-mini identifies the strongest segments from the transcript, combined with face/object detection for smart vertical-crop framing.
- On the roadmap: extending with Temporal for durable execution and checkpointed recovery across long-running renders.

LangGraph

FastAPI

FFmpeg

GPT-4o-mini

Next.js

GitHub: github.com/AbhisekMishra/video-generator-fe Live: video-generator-six-coral.vercel.app

Gen Z Slang Model

Personal / Learning

A QLoRA fine-tune of Qwen2.5-1.5B-Instruct that translates Gen Z slang into plain English and back — trained end-to-end on a laptop GPU.

- Rank-16 LoRA across all seven projection matrices, 4-bit NF4 double-quantized, **~20** minutes per training run on an 8GB RTX 4060.

- Diagnosed why a correct answer present in the training data still wasn't learned — LoRA only updates **~1.2%** of parameters, so a couple of examples can't override a strong pretrained prior.
- Audited my own 'grounded in real datasets' claim against the code, found the pipeline never read the source files, and rebuilt it to generate **~4,600** examples programmatically.

QLoRA Fine-tuning Qwen2.5 LLM

GitHub: github.com/AbhisekMishra/genz-model

RAG Strategy Playground

Independent — Published

A hands-on field guide to RAG, built inside a working app — every retrieval and evaluation technique implemented as a switchable strategy rather than a slide.

- Built rag-ollama-js to implement and compare RAG strategies against the same document set inside one codebase, instead of reading about them.
- **46+** GitHub stars and **15** forks — public signal from other engineers building similar systems.
- Spun out the evaluation layer into raglens, a RAGAS-style RAG evaluation library for TypeScript, published to npm (provider-agnostic, zero required runtime dependencies).

RAG TypeScript Ollama Evals npm

GitHub: github.com/AbhisekMishra/rag-ollama-js npm: npmjs.com/package/raglens

Agentic SDLC Standardization

Emirates NBD

A bank-wide Claude Code plugin standardizing legacy service migrations with deterministic, review-consistent output.

- Architected a **bank-wide** Claude Code plugin — CLAUDE.md context standards, reusable Skills, subagents, and hooks — to standardize and structurally enforce Java-to-Node.js legacy service migrations across the engineering organization.
- Built a Git hook to measure Claude-authored vs. manually-written code volume per engineer, feeding into adoption and cadence reporting.
- Estimated **~40%** reduction in migration time based on comparative task estimates; adopted **bank-wide** across the engineering organization.

Claude Code Developer Tooling SDLC Standardization

Omnichannel Banking Platform

Emirates NBD

A highly scalable, event-driven microservices platform underpinning Tablet Banking, ATM servicing, and CRM integration.

- Node.js for high-throughput APIs, MongoDB for flexible data modeling, Redis for distributed caching.
- Applied Domain-Driven Design and service resiliency patterns to decouple core business capabilities.
- Owned the full solution lifecycle across multiple modules — design, deployment, monitoring, and post-launch support.

Node.js MongoDB Redis DDD Microservices

EDUCATION

B.Tech, Electronics and Telecommunication

Biju Patnaik University of Technology · **Trident Academy of Technology** | 2009 — 2013

CERTIFICATIONS & AWARDS

- Microsoft Certified: HTML5, CSS3, JavaScript Developer
- IT Legend Award, Emirates NBD — Q4 2021 and Q3 2022
- On the Spot Award, Emirates NBD — multiple occasions