

Ratnesh Maurya

Backend & AI Engineer (Golang, Elixir, Distributed Systems, AI Agents)

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TECHNICAL SKILLS

Languages	Golang, Elixir, Python, TypeScript, SQL, C++
AI & Agents	AI Agents, MCP (Model Context Protocol), pydantic-ai, OpenAI Tool Calling, A2A, RAG
Backend & Systems	Microservices, Phoenix, Kafka, gRPC, Protobuf, REST APIs, Oban, Concurrency
Databases	PostgreSQL, Redis, Qdrant (Vector Search), MongoDB
Infrastructure & Obs	AWS, Kubernetes (Operators/CRDs), Docker, Prometheus, Grafana, pprof

EXPERIENCE

Initializ Pvt. Ltd. | Software Development Engineer Gurugram, India | July 2024 – Present

- Client – **Nestara** (home loans): **top contributor (1,400+ commits)** to the Elixir/Phoenix loan backend.
- Built the **credit-risk engine** merging **CIBIL** and **Experian** into one verdict, so sales calls the best leads first.
- Automated **lead routing** to sales agents and a **notification pipeline** (WhatsApp, SMS, email, push) for **19** stages.
- Created **Nestara OneCRM** from scratch – the CRM the sales team uses daily for leads, calls and source analytics.
- Built a 3-pass **top-up loan pipeline** (valuation, address extraction, geocoding, clustering, lender matching) that uses an **LLM** to clean and classify raw bureau addresses in concurrent batches, with a fallback when the model is down.
- Secured the CRM APIs with **AES-256-GCM** response encryption, lead-level authorization and an **audit trail**; integrated Surepass CIBIL (cached), ParkPlus, Zapkey, Amazon SES and FCM.
- Built **“Ask Nestara AI”**, a home-loan **AI agent** (pydantic-ai, FastAPI) that must call exact EMI and eligibility calculators before answering, so the LLM never guesses numbers; added Redis rate limits, token budgets and a circuit breaker.
- Designed **AI agent orchestration**: an **MCP server** of loan-advisor tools (compare offers, EMI, draft email) and a custom **tool-calling agent loop** with one session per customer.
- Built **LogsRCAAgent**, an AI agent in Go that reads **GreyOrange** warehouse-robot logs and explains failures; concurrent **goroutine** parsing cut root-cause analysis time by **60%**.
- Built a **Kafka/Redis/Protobuf** Notification Microservice with **99.87%** exactly-once delivery; profiled Go services with **pprof**, Prometheus and Grafana to cut heap allocation by **30%**.
- Built **RAG** ingestion for Initializ’s AI assistants (S3, SharePoint) and an offline RAG chatbot on **Ollama** and **Qdrant**.
- Built contract-renewal APIs in **Go** (Gin, MongoDB) with **role-based access**, plus an **AI chat** that answers renewal questions from live renewal, inventory and agent-activity data.

Initializ Pvt. Ltd. | Software Developer Intern Gurugram, India | Aug 2023 – June 2024

- Built **secrets-operator**, an open-source **Kubernetes Operator** (CRDs) for secrets; cut update latency by **67%**.
- Built the **Secret Management Microservice** with zero-knowledge, client-side **Web Crypto** encryption.

OPEN SOURCE

Forge | Golang, AI Agent Runtime 2026

- Added **WhatsApp** support to Forge, an open-source runtime for AI agents (**6,200+ lines** of Go, PR #452): QR-code login, sender allow-listing, reply-loop protection and **16** end-to-end tests.

PROJECTS

PDFFusion | Python, FastAPI, AWS S3 2025 – 2026

- Open-source microservice that merges PDFs and images from **S3 presigned URLs**, validated with **qpdf**.

Ratn Tools Suite | TypeScript, Next.js Aug 2025 – Present

- JSON validation and compression tools that run **fully in the browser**; data never leaves the device.

EDUCATION

Dr. APJ Abdul Kalam Technical University B.Tech in CSE	Kanpur, India 2020 – 2024 8.0 CGPA
Maharshi Patanjali Vidya Mandir Intermediate	Allahabad, India 2017 – 2019 84.02%