

Hassan Rehman

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SUMMARY

GenAI & Web3 infrastructure engineer with a shipped portfolio spanning on-chain agent memory systems, production LLM applications, multi-agent safety architectures, and real-world satellite ML. Designs systems where AI is the architecture — RAG pipelines with real memory constraints, role-separated multi-agent systems with hard safety boundaries, and blockchain-attested infrastructure running in production. 3× Hackathon Finalist & Winner (Monad Blitz Winner, IEEE CodeBhoomi Top 10, IIT Bombay i-Hack). CGPA: 9.86/10.

SKILLS

GenAI / LLM: Mistral · OpenAI · Claude · Ollama · RAG pipelines · multi-agent safety · prompt engineering · ASR (Whisper/Groq) · context window mgmt

Web3: Solidity 0.8.24 · Hardhat · OpenZeppelin v5 · Monad EVM · viem · on-chain attestation · GDPR Deletion Provers · W3C DID · MCP servers

Applied ML: scikit-learn · LightGBM · Pandas · NumPy · xarray · Google Earth Engine · Sentinel-1 SAR · Sentinel-2 · NASA GPM/SMAP · Copernicus DEM

Languages: Python · TypeScript · JavaScript · SQL (CTEs, window functions) · Solidity

Frameworks: Next.js 14 · React · FastAPI · Fastify · Electron · Node.js · Tailwind CSS · shadcn/ui · pgvector · Drizzle ORM

Infra / MLOps: Docker · GitHub Actions · Redis · PostgreSQL · Neo4j · Celery · Alembic · Prometheus · Nginx · Vercel · Turborepo · Pytest (100+ suites)

EXPERIENCE

Software Development Engineer Intern Feb 2026 – Apr 2026

Bluestock Fintech · Remote

- Shipped production corporate blog platform (Next.js 14, Node.js/Express, PostgreSQL, MongoDB) with SSG/ISR, auth, SEO metadata, and CI/CD — improved p95 load time by ~40% via ISR cache tuning.

Operations Management Intern May 2025 – Nov 2025

SalesMonk.ai · Remote (AI-driven B2B sales platform)

Marketing Intern Jun 2025 – Aug 2025

Jivika · Remote

- Analyzed campaign performance data and mapped user engagement workflows; produced annotated process diagrams used in two product reviews.

PROJECTS

MNEME — Sovereign Agent Memory Layer [🔗](#) Monad Blitz Hackathon Winner · Next.js 14 · Fastify · PostgreSQL+pgvector · Redis · Neo4j · Solidity · Monad EVM · FastAPI · SpaCy · Docker

- Only AI agent memory infrastructure with a cryptographically verified GDPR Deletion Prover — on-chain Monad tombstoning with ~90% gas reduction via batch attestation; peer-to-peer Memory Market (USDC, 80/20 split).
- Drop-in MCP server (memory_write, memory_recall, memory_inspect) for Claude Desktop, Cursor, and any MCP-compatible agent; semantic recall via pgvector + temporal inspection.

SlopeSense — Landslide Risk Intelligence Platform [🔗](#) Python · FastAPI · LightGBM · Celery · Redis · PostgreSQL · Docker · Next.js 14 · MapLibre · GitHub Actions

- Fused 6 satellite/weather sources into a probabilistic Failure Probability Index at 1 km² / 6h refresh; LightGBM calibrated on NASA LHASA v2 — validated 6/6 historic events; <120ms p95 API, ~4 min full-India run.
- NDMA-compatible CAP v1.2 XML alerts + WhatsApp HMAC-verified dispatch <30 seconds; 100+ pytest tests; Prometheus metrics; full CI/CD.

fumii — AI Companion Desktop App [🔗](#) IEEE CodeBhoomi Top 10 National Finalist · Electron 29 · React 18 · TypeScript · SQLite · Mistral · OpenAI · Claude · Ollama

- Tiered RAG-style memory (identity ~500 tokens + episodic top-3/turn + 7-day mood window) assembled into ~1,000-token bounded context; multi-provider LLM abstraction with OS-keychain credential management.

DeTalks — Multi-Agent Mental Wellness Platform [🔗](#) IEEE CodeBhoomi Top 10 National Finalist · React · TypeScript · Vite · shadcn/ui

- Dual-agent safety architecture: Disha (triage, 5-level severity routing) + Kavach (silent crisis monitor generating warm-handoff summaries for therapists) — role-separated, human-in-the-loop, no-diagnosis guardrails.

River Watch · Mike · EvrythingAI · 1ph [GitHub: github.com/h55n](https://github.com/h55n)

- River Watch: Sentinel-1 SAR + Sentinel-2 NDWI dual-signal fusion for river anomaly detection (4 hotspots, 12-month seasonal baseline, 21 pytest tests).
Mike: <500ms Groq Whisper ASR voice dictation tool with LLM polish pass, PyInstaller packaging. EvrythingAI: \$0/month GitHub Actions LLM newsletter pipeline. 1ph: Mistral-powered hackathon listing enrichment with SSG frontend.

EDUCATION

B.E. Artificial Intelligence & Data Science CGPA: 9.86 / 10

Savitribai Phule Pune University (Zeal College of Engineering & Research), Pune · Expected June 2027

CERTIFICATIONS & RECOGNITION

Monad Blitz Hackathon Winner — MNEME Jul 2026

IEEE CodeBhoomi Tech for Good Top 10 National Finalist — DeTalks May 2026

i-Hack Hackathon, IIT Bombay Finalist Feb 2025

Responsible AI (Google) Applying AI Principles Sep 2025

Data Analyst 101 (Microsoft) Sep 2025