

# Maskeen Singh

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## Professional Experience

### Builder / Founder

Aug 2025 – Jul 2026

*KnowDeck*

[knowdeck.in](#)

- Engineered an AI-driven presentation platform processing millions of requests/LLM tokens, scaling to **an active userbase** and a **whatsapp members community for active feedback and iterations**.
- Selected and backed by **AWS** and **NVIDIA**.
- Built a Topic-to-Deck pipeline using LLMs to transform unstructured text into structured, hierarchical slide decks.
- Implemented real-time interactive follow-up generation, enabling dynamic runtime content expansion.
- Structured strict request/response validation with Pydantic; implemented token bucket rate limiting and exponential backoff retry policies for high-load API resilience.
- Engineered a model-agnostic provider layer supporting dynamic API switching across OpenAI-compatible providers.

### Software Engineer Intern

Mar 2026 – May 2026

*Mandi Plus (Bengaluru, On-site)*

- Designed and deployed event-driven operational workflows using Meta Graph API, automating real-time invoice dispatch and customer communication via WhatsApp.
- Integrated PhonePe payment infrastructure with secure webhook processing, checksum verification, idempotency controls, and structured transaction logging.
- Built logistics tracking systems using Traqo APIs, enabling real-time agricultural fleet monitoring via SIM-based vehicle tracking.
- Developed computer vision pipelines using YOLO for automated inventory estimation, replacing manual counting procedures.
- Collaborated directly with business teams to translate ambiguous agricultural logistics workflows into scalable production systems.

### Machine Learning Engineer Intern

Mar 2025 – Jul 2025

*Aishikshak.com (Remote)*

- Optimized production ML model serving using Python async/await patterns to eliminate I/O concurrency bottlenecks.
- Fine-tuned deep learning architectures across PyTorch and TensorFlow, boosting inference output quality.
- Deployed scalable ML inference pipelines on AWS and Azure integrated with core backend services.
- Optimized PostgreSQL database queries using Pydantic validation layers and automated feedback logging.

### Backend Engineer Intern

Jun 2024 – Jul 2024

*Stealth AI Startup (Remote)*

- Engineered and deployed modular backend microservices using Python and FastAPI for core application features.
- Implemented in-memory caching layers that reduced analytical dashboard query latencies by **30%**.
- Partnered directly with founding engineers to ship iterative product features under rapid release cycles.

## Projects

### Acuis – Skincare & Medication Routine Engine (In Development)

[acuis.app](#)

- Prototyping an open-source, cross platform application in Flutter to resolve scheduling conflicts between prescription treatments and cosmetic actives.
- Designing an offline-first SQLite database schema to map chemical incompatibilities and timing rules (e.g., pH neutralization, barrier stress).
- Developing a prototype extraction pipeline using Gemini Image Api to parse unstructured regimens from handwritten medical notes.
- Implemented local data persistence and state management with unit tests validating basic rule-evaluation logic.

### ErBlogX – Semantic Search Engine

[erblogx.vercel.app](#)

- Built a vector search engine indexing **25,000+ engineering articles** using Sentence Transformers embeddings.
- Integrated GPT-4o-mini to synthesize automated technical summaries from matched query contexts.
- Maintained **99.9% system availability** using Supabase vector storage, Vercel edge runtime, and GitHub Actions.

## Technical Skills

- **Languages:** TypeScript, JavaScript, Python (async/await, typed), SQL, C++
- **Backend & Systems:** FastAPI, Node.js, PostgreSQL, SQLite, Redis, REST APIs, Webhooks, Idempotency, Rate Limiting, Docker
- **Frontend & Mobile:** React, Next.js, Flutter, Tailwind CSS, State Management
- **Applied AI & Vision:** LLM Pipelines, Vision-Language Models (VLMs), RAG, Agentic Workflows, Computer Vision (YOLO), PyTorch
- **Developer Tooling:** Cursor, Claude Code, GitHub Copilot, Git, GitHub Actions, Linux, pytest

## Education

### Bachelor of Technology in Information Technology

*Guru Gobind Singh Indraprastha University, Delhi*

- Coursework: Data Structures & Algorithms, Machine Learning, Database Systems, Object-Oriented Design.