

Ashutosh Singh

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EDUCATION

Indian Institute of Information Technology Lucknow

B.Tech in Computer Science and Engineering

Aug 2023 – Jun 2027

Lucknow, UP

EXPERIENCE

AI/ML Engineer Intern

SuperKalam

Jan 2025 – Apr 2025

Remote

- Improved retrieval and semantic search quality by refining Elasticsearch indexing, embedding pipelines, and Qdrant schemas, resulting in a **20% lift in search relevance metrics**.
- Reduced inference costs by **35%** through systematic model migration from OpenAI to Vertex AI Gemini, maintaining performance and response quality.
- Built and maintained LLM evaluation systems to benchmark response quality, grounding accuracy, latency, and cost trade-offs, enabling data-driven model selection and optimization.

Google Summer of Code 2025

KDE

May 2025 – Aug 2025

Remote

- Built QML/JavaScript-based dataset editors for multiple GCompris activities, enabling creation and validation of fixed and randomized datasets.
- Refactored legacy dataset formats into a unified, extensible schema, **reducing parsing complexity** and long-term maintenance overhead.
- Designed reusable QML UI components and implemented editor-level validation, **improving data integrity** and editor usability.

Beckn

C4GT 2025

May 2025 – Aug 2025

Remote

- Unified vector databases for **100K+ embeddings**, enabling **sub-150 ms** semantic search latency.
- Improved query accuracy by **70%** through ranking optimization and intent recognition; ETL pipeline processing **10K+ records/hour** with **85% noise reduction**.
- Developed an AI platform to track **100+** Indian Constitution amendments using NLP-based summarization.

PROJECTS

VengeanceUI — Open-Source UI Library | TypeScript, Next.js, Tailwind CSS, Framer Motion

Live | GitHub

- Built and maintained an animated React component library with TypeScript, Tailwind CSS, and Framer Motion — MDX docs with live interactive previews.
- Scaled to **15,000+ active users** and **350+ GitHub stars**; selected for the **Vercel OSS Program**.

Draco Browser | Electron, TypeScript, React, SQLite, Ghostery

GitHub

- Building a **privacy-first** browser from scratch — **built-in ad/tracker blocking** via Ghostery, Arc-inspired vertical sidebar with Spaces, and tab hibernation for memory efficiency.
- Lean Electron shell with HTTPS-only mode, **SQLite-backed** history/bookmarks, smart URL bar, IPC navigation bridge, and **zero telemetry** by default.

Scribble3D | Next.js, React, Three.js, TLDraw, FastAPI, Celery, Redis

GitHub

- AI-powered sketch-to-3D platform converting 2D drawings into interactive 3D models with one-click **.gITF export**.
- Real-time frontend via Next.js, Three.js, and TLDraw; async backend with FastAPI, Celery, and Redis for **scalable AI task execution**.

ACHIEVEMENTS

- Selected for the **Vercel OSS Program** after VengeanceUI reached **15,000+ active users** across production deployments.
- Reviewed **300+ pull requests** and merged **100+ contributions** across open-source projects; recognized as a trusted technical reviewer.

TECHNICAL SKILLS

Languages: JavaScript, TypeScript, Python, C++

Frontend: React.js, Next.js, HTML5, CSS3, Tailwind CSS, Framer Motion, Responsive Design

Backend & Web: Node.js, Express.js, FastAPI, REST APIs, Authentication, Authorization

Databases: MongoDB, Prisma, SQLite, Qdrant, Elasticsearch

AI / ML: NLP, Embeddings, Vector Databases, LLM Evaluation, OpenAI API, Vertex AI

DevOps & Tools: Git, GitHub, Docker, CI/CD, Electron, Vite, Clerk