Garvit Nag

+91-9877926632 | garvit1505@gmail.com | www.linkedin.com/in/garvit-nag | www.garvitnag.in

EDUCATION

Chandigarh College Of Engineering & Technology (Panjab University)   Chandigarh, IN
Bachelor of Engineering in Computer Science & Engineering, CGPA: 8.04   *Dec. 2021 – June 2025*

WORK EXPERIENCE

Software Development Engineer Intern   Jan. 2025 – June 2025
Stardom
- Architected an SSR-first admin CMS built on **Next.js** and **Appwrite** in an asynchronous team setting, structuring dynamic content schemas to eliminate static redeploy cycles.
- Bypassed **Vercel's** serverless payload limits by implementing direct client-to-storage (CSR) media uploads, optimizing backend bandwidth.
- Enforced strict MIME-type validation to reject highly encoded formats and implemented dynamic routing for consistent JSON-driven rendering.

ACHIEVEMENTS

Gen AI Exchange Hackathon by Google   October 2024
Winner (Network 18 Track)
- Won first place in the Network 18 track at the Gen AI Exchange Hackathon organized by Google and Devfolio.
- Developed an innovative solution to combat misinformation by running multiple pre-trained models for a robust media attribution and tampering detection system.
- See project: verifiedbycredify.vercel.app

PROJECTS

Qodex | *Next.js 15, FastAPI, PostgreSQL, Pinecone* | Live Demo   Oct. 2025 – Jan. 2026
- Engineered a hybrid retrieval pipeline (**Pinecone** + **PostgreSQL**), mapping results to rows via composite index lookups (repository_id, file_path, chunk_index).
- Processed repositories up to ∼120 files (691 chunks), generating embeddings locally in ∼17s (∼40 chunks/sec) via **SentenceTransformers** to eliminate API costs.
- Indexed ∼700 vectors/repo in **Pinecone** via batched upserts, reducing insertion overhead and improving retrieval latency.
- Configured **SQLAlchemy** connection pooling (5 base + 10 overflow) to handle concurrent DB operations within **Neon** limits without connection exhaustion.

MediSage | *Next.js, FastAPI, MongoDB, Stripe, Redis* | Live Demo   Dec. 2024 - Feb. 2025
- Architected a SaaS platform, enforcing per-user rate limiting with **Upstash Redis** INCR + TTL-based daily resets, eliminating cron jobs.
- Eliminated payment delays by verifying **Stripe** checkout sessions synchronously before webhook arrival, ensuring immediate feature unlock.
- Structured **Gemini** prompts as strict JSON schemas, enabling deterministic AI responses and zero post-processing overhead.
- Propagated userId + planName via **Stripe** metadata and verified HMAC signatures, reconstructing ownership without additional **MongoDB** queries.

RecipeRover | *Next.js, TypeScript, Flask, Appwrite* | Live Demo   Sept. 2024 – Nov. 2024
- Developed a **Flask** recommendation engine, constructing a sparse feature matrix (TF-IDF, categorical, numeric) persisted via .npz to eliminate recomputation.
- Computed cosine similarity with dynamic re-ranking (calorie/time penalties) to instantly serve personalized recommendations.
- Reduced API costs by constraining **Gemini** responses to structured JSON, minimizing token usage and enforcing strict typing.
- Parallelized image retrieval across 5 sources leveraging async **aiohttp**, validating responses via HEAD requests for reliable fallback handling.

TECHNICAL SKILLS

Languages: Python, JavaScript/TypeScript, C/C++
Frameworks & Libraries: FastAPI, Flask, React.js, Next.js
Databases: MongoDB, PostgreSQL, Pinecone, Appwrite, Redis
Cloud & DevOps: AWS, Docker, Hugging Face, Vercel
Developer Tools: Git/GitHub, VS Code, Linux/Unix, Stripe API