Sehaj Preet

sehajmakkar007@gmail.com | linkedin.com/in/sehajmakkar | github.com/sehajmakkar | sehaj.tech | x.com/kryptokodes

Education

Maharaja Agrasen Institute of Technology, GGSIPU Aug 2023 – Aug 2027
Bachelor of Technology in Information Technology (GPA: 9.05) *Delhi, India*

Experience

PowerPlay Feb 2026 – Mar 2026
Backend Development Intern *Onsite, Bengaluru*

- Refactored Excel export from offset pagination to **MongoDB streaming**, processing **100K+ records in under 2 minutes** (previously 7+ minutes) with much lower memory use.
- Built **5+ client-facing backend scripts**, including a **deduplication engine** using composite field hashing that recalculated uniqueness across **95,000+** existing records.

Perf Sep 2025 – Jan 2026
Software Engineering Intern *Remote, London*

- Built an **AI browser agent** as a Chrome extension (Manifest V3, TypeScript) that records workflows via DOM events and replays them with **LLM element grounding** to self-heal across UI changes.
- Designed a **human-in-the-loop** fallback with **LangGraph** interrupts for low-confidence matches, and auto-generated SOPs with screenshots, cutting documentation time by **80%+**.
- Shipped **15+ production features** in React and TypeScript and ran **7+ production deployments** on AWS (Elastic Beanstalk, Amplify) with CI/CD.

Projects

Vero | *Next.js, TypeScript, PostgreSQL, Drizzle, Gemini, Docker* Live GitHub

- Built an AI LaTeX editor where inline edits (Ctrl+K) stream in as **reviewable diffs**, each checked against **13+ validation rules**; ATS scoring combines rule checks with LLM grading.
- Moved compilation to a **Dockerized TeX service** after it broke on serverless: per-job sandbox, shell escape off, 60s timeout, bounded queue, and pdflatex/xelatex/lualatex fallback.

McAgent | *Swift, Python, FastAPI, SQLite + sqlite-vec, Gemini* GitHub

- Built a local-first macOS agent that reads screen text via the **Accessibility API**, detects open loops, and drafts follow-up emails that send only after **human approval**.
- Reached **97% Recall@5** on hybrid memory retrieval and passed **12/12** agent scenarios incl. prompt injection, with authority rules enforced in code.

Agent Labs | *Python, Gemini, OpenTelemetry, SQLite, React, GitHub Actions* Live GitHub

- Built an agent eval and debugging framework with deterministic replay (**13/13** runs at $0), forked reruns scored with **Fisher's exact test**, and a CI gate below 90% pass rate.
- Auto-Blame finds the first wrong step in **92%** of 50 seeded failures, against a **30%** baseline.

Genomics AI | *Next.js, TypeScript, Python, FastAPI, GPU backend* Live GitHub

- Built variant analysis on Stanford's **Evo 2** model, integrating **5+ genomic APIs** and comparing predictions against **20,000+** validated clinical records.

Technical Skills

Languages: Python, TypeScript, JavaScript, SQL, C/C++, Swift
AI and Evals: Gemini API, LangGraph, function calling, structured outputs, hybrid RAG, embeddings, LLM-as-judge
Backend and Data: Node.js, Express, FastAPI, REST, SSE, PostgreSQL, Drizzle, MongoDB, SQLite, sqlite-vec
Frontend and Tools: React, Next.js, Tailwind, Chrome Extensions, Docker, AWS, GitHub Actions, pytest, Vitest

Achievements

- **1st place** at Hackaccino 3.0 (250+ teams, 3600+ participants), Bennett University.
- Ranked **1640/26,806** in a LeetCode contest; solved **500+** problems across LeetCode and Codeforces.