

GURKIRAT SINGH LOHAT

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B.Tech Computer Science student with hands-on experience building and shipping full-stack, AI-integrated web applications, and independent projects in multi-agent reinforcement learning and applied machine learning. Comfortable learning new codebases quickly, collaborating in teams, and writing production-quality code. Strong DSA foundation (250+ LeetCode problems).

EDUCATION

Guru Nanak Dev Engineering College, Ludhiana Expected Graduation: 2028

Bachelor of Technology (B.Tech) in Computer Science and Engineering

TECHNICAL SKILLS

Languages: JavaScript, TypeScript, Python, C++, SQL

Frameworks & Tools: Next.js, React, Node.js, Supabase, REST APIs, Git/GitHub, Vercel, Playwright

AI & Dev Tooling: Groq API, Gemini API, GitHub Copilot, Codex, Antigravity, Replit, Judge0/Piston code-execution APIs

Machine Learning & Simulation: Reinforcement Learning (Independent Q-Learning), Multi-Agent Systems, Reward Shaping, NumPy, scikit-learn

Core CS: Data Structures & Algorithms, System Design fundamentals, Testing, Version Control, Agile/Team Collaboration

EXPERIENCE

Software Engineering Intern — AlertEnterprise 1 Month

Remote

- Collaborated with a cross-functional team, strengthening communication and code-review habits through regular feedback cycles.
- Independently designed and built RecallCode during the internship, applying spaced-repetition theory to DSA pattern retention (see Projects).
- Gained hands-on exposure to Playwright for automated testing and to Antigravity/Codex for AI-assisted development workflows.

AI Web Development Intern — InAmigos Foundation 2 Weeks

Remote

- Used AI-assisted coding tools (GitHub Copilot, Antigravity, Replit) to build and iterate on web applications faster.
- Built and deployed a web application end-to-end, gaining practical experience with the full pipeline from local development to production.

PROJECTS

RecallCode — Spaced-Repetition Platform for DSA Pattern Recall

github.com/codingmastergurkirat/RecallCode | Live Demo

- Designed a full-stack app combining a LeetCode-style problem workflow with Anki-style spaced repetition to help users retain DSA patterns long-term.
- Built with Next.js and Supabase; implemented an in-browser code editor integrated with the Judge0 API for live code execution, after evaluating the Piston API.
- Integrated Groq and Gemini APIs to analyze submitted solutions and auto-generate flashcards summarizing each problem's underlying pattern.
- Used AI pair-programming (Codex) to accelerate development while independently owning architecture and deployment decisions.

Multi-Agent Reinforcement Learning Simulator — Swarm Coordination in a Custom Gridworld

- Built a custom discrete gridworld environment in Python to train 3-5 independent agents on spatial coordination and pathfinding.
- Implemented Independent Q-Learning with tunable reward-shaping parameters so agents learn shortest-path discovery while mitigating collisions with one another.
- Visualized training progression over 5,000+ iterations to validate convergence and learning behavior, informing future work on multi-agent optimization and swarm-style coordination problems.

LeetCode Recommender — Personalized Practice-Problem Suggestion Tool

- Built a tool that fetches a user's solved-problem history via a public LeetCode API and recommends the next problems to practice, with an on-demand refresh mechanism.

Heart Disease Risk Predictor — Machine Learning Web App

- Trained a classification model on a Kaggle heart-disease dataset and deployed it behind a simple web form for real-time risk prediction from user-provided health inputs.

ACHIEVEMENTS & PRACTICE

- Solved 250+ problems on LeetCode across arrays, trees, graphs, dynamic programming, and greedy algorithms.