

Samarth Goel

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EDUCATION

Northeastern University, Khoury College of Computer Sciences

Master of Science in Computer Science; GPA: 3.5/4.0

Boston, MA

Jan. 2025 – May 2027

SRM Institute of Science and Technology

Bachelor of Technology in Computer Science with Business Systems; GPA: 3.67/4.0

Chennai, India

Sept. 2020 – May 2024

EXPERIENCE

Software Engineer Intern

Jul. 2023 – Oct. 2023

Unitech Ltd.

Gurugram, India

- Built backend services and data pipelines in Python and JavaScript for 500+ enterprise users across the full SDLC.
- Engineered MySQL schemas and indexed data pipelines processing 10,000+ records daily across 8 distributed sources; improved query performance by 87% through schema redesign and indexing.
- Monitored, troubleshooted, and resolved production issues; collaborated cross-functionally through code reviews and Agile sprints with product and engineering teams.

PROJECTS

CacheDB | *Modern C++, CMake, TCP, CTest, Docker*

Jan. 2026 – Feb. 2026

- Engineered a Redis-style in-memory key-value server from scratch in modern C++ — a thread-per-connection TCP server with `std::shared_mutex` reader-writer locks, TTL expiration (lazy + background cleanup), and snapshot persistence.
- Validated with CTest unit and integration tests in a CI/CD pipeline; benchmarked throughput under concurrent load and resolved race conditions through systematic debugging.

JobHunt Agent | *TypeScript, React, Cloudflare Agents SDK, Workers AI, Durable Objects*

Mar. 2026 – Apr. 2026

- Built an AI job-application coach on Cloudflare's Agents SDK — a chat agent (Llama 3.3 70B on Workers AI) running multi-step tool calling across 5 tools, with per-session state in Durable Objects + embedded SQLite.
- Built the React + TypeScript UI with real-time WebSocket streaming via the `useAgentChat` hook; owned design through deployment.

Intelligent Bistro | *React Native (Expo), TypeScript, Node.js, Gemini 2.5 Flash, SQLite*

May 2026

- Built a natural-language food-ordering app where Gemini 2.5 Flash function-calling converts chat messages into typed cart actions over a stateless `(message, cart) → (reply, actions)` REST contract.
- Hand-authored the tool schemas and menu-constrained prompt; scaffolded the app with Claude Code and tested tool-call parsing with vitest.

Kambaz | *TypeScript, React, Next.js, Node.js, MongoDB, PostgreSQL, AWS*

May 2025 – Jun. 2025

- Built a full-stack platform (React/Next.js, Node.js, TypeScript) with REST APIs over relational (PostgreSQL) and NoSQL (MongoDB) data — 50+ user-facing features with role-based authentication.
- Deployed on AWS with Docker + GitHub Actions CI/CD; iterated through peer code reviews and design discussions.

PUBLICATIONS

Published real-time CNN hand-sign recognition research (Python, TensorFlow; 30+ FPS), 2024.

TECHNICAL SKILLS

Languages: Python, TypeScript, JavaScript, C++, Java, SQL, Bash, HTML/CSS

AI & Agents: LLM function calling & tool schemas, AI agents, Cloudflare Agents SDK, Workers AI, prompt engineering, Claude Code

Web & Full-Stack: React, React Native, Next.js, Node.js, Express, RESTful APIs, Responsive UI

Cloud & DevOps: AWS (S3, EC2), Cloudflare (Workers, Durable Objects), Docker, Git, GitHub Actions, CI/CD, Linux

Databases: PostgreSQL, MongoDB, MySQL, SQLite, Redis, Schema Design, Query Optimization