




Harshil Snehalkumar Sanghvi

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EDUCATION

Master of Science in Computer Science 08/2023 - 05/2025
Stony Brook University, NY, USA GPA: 3.93/4.0
Relevant Coursework: Distributed Systems, Network Security, Machine Learning, Natural Language Processing

Bachelor of Technology in Computer Science and Engineering (Gold Medal) 07/2019 - 06/2023
Nirma University, Ahmedabad, India GPA: 9.43/10
Relevant Coursework: Object Oriented Programming, Data Structures and Algorithms, Database Management System

EXPERIENCE

Software Engineer Oracle 07/2025 - Present

- Built **agent orchestration** that routes user requests across conversational agents, data-backed reasoning flows, and external services - with **tenant-aware authentication**, endpoint resolution, and **SSE streaming** decoded into structured payloads (metadata, UI artifacts, execution context, follow-up actions).
- Shipped a **standards-based tool integration layer (MCP)** for tool discovery, invocation, schema validation, and normalized responses, plus reusable wrappers with structured input contracts, runtime validation, and integration-test coverage.
- Implemented **multi-turn conversation state** across the platform - session continuity, follow-up handling, and persistent context across tool calls - so multi-step workflows survive across messages instead of resetting per turn.
- Designed the **safety layer** for AI-driven content changes: **semantic guardrails**, **prompt-injection detection**, fail-closed evaluation, and audit logging, plus schema-checked import/export and application/version validation.
- Built and tuned a **production support assistant** on Oracle's conversational AI platform - query preprocessing, response classification, fallback handling, and **Slack-channel** handoff - backed by a **knowledge backend** with structured incident-summary generation, exact-first retrieval (scored matching, entity extraction), and lifecycle controls across database, blob storage, and search index.

AI Application Intern TalentNow 01/2025 - 05/2025

- Engineered a **normalized vector database architecture** for candidate-skill matching, reducing space complexity by **37%** and similarity comparisons by **99.7%**.
- Developed an **LLM-powered semantic skill matching system** with intelligent thresholding and **Redis-based fallback logic**.
- Decreased end-to-end matching latency from **60+ seconds to 13 seconds** through optimization.

Software Engineer Intern Interactive Brokers 06/2024 - 08/2024

- Developed and deployed **REST APIs** for **IBKR's Digital Account Management (DAM) 2.0**, enabling efficient extraction of request IDs within a specified time frame and improving system efficiency.
- Designed and implemented **Batch Applications** for the **Automated Customer Enrollment System (ACES)**, automating Anti-Money Laundering (AML) task assignments and generating files for **Consolidated Audit Trail (CAT)** and **Tableau Reporting**.

TECHNICAL SKILLS

Languages: Python, Java, SQL, JavaScript, TypeScript, Go, C/C++
AI / LLM Stack: LLMs, RAG, LangGraph, LangChain, MCP, OCI Generative AI, Prompt Engineering
Libraries and Frameworks: Flask, FastAPI, Spring Boot, React.js, Node.js, Express.js, PyTorch, TensorFlow, Pandas, NumPy, scikit-learn, pytest
Databases and Cloud: Oracle Database, PostgreSQL, MongoDB, MySQL, Redis, Elasticsearch, OCI, Azure, Docker, Kubernetes, Git, Jenkins

PROJECTS [\[Other Projects\]](#)

CodeCompanions | React.js, Tailwind CSS, Node.js, Express.js, MongoDB, Socket.io, Axios [\[GitHub\]](#)

- Developed a feature-rich web application for hosting coding contests using React and Tailwind CSS for the frontend, with Node.js and Express for the backend, and MongoDB for database management.
- Implemented real-time functionalities with Socket.IO for dynamic contest ranklists and submissions, enhancing user engagement during live competitions.
- Designed secure user authentication features, including sign-up, email verification, and login, while integrating the Codeforces API for access to a comprehensive problem set.

Jump Proxy: Secure Reverse Proxy System | Go, AES Encryption, PBKDF2 [\[GitHub\]](#)

- Developed Jump Proxy, a secure reverse proxy application using Go that implements AES-256 encryption for data protection, utilizing PBKDF2 for key generation and designed for efficient client-server communication over TCP.