



Gurinder Singh

Staff Software Engineer (Mobile & AI)

LLM Agents · RAG Pipelines · Mobile · Automation

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SCAN FOR PORTFOLIO

90M+

USERS IMPACTED

28+

HACKATHONS

2×

1ST PLACE WINS



PATENT HOLDER

SUMMARY

Staff Software Engineer with over a decade of experience scaling applications for millions of users. Patent holder and technical leader specializing in bridging cutting-edge AI/ML with practical mobile solutions. Proven track record of building legendary apps at global scale, from startup innovation to enterprise solutions serving 90M+ users at PayPal/Venmo. Passionate about mentoring engineers, conducting technical interviews, and fostering inclusive tech communities while driving innovation at the intersection of iOS/Mobile and artificial intelligence.

TECHNICAL SKILLS PORTFOLIO

* Condensed overview — full technical depth available on portfolio

CATEGORY	SPECIALIZED DOMAINS TOOLS & TECHNOLOGIES		KEY TECH
Mobile	iOS Core Spatial & Hardware Cross-Platform	Swift, Objective-C, SwiftUI, UIKit, SwiftData, Core Data ARKit, RoomPlan, BLE, NFC, MapKit, RxSwift, Combine Flutter & Dart	
AI/ML	Models & LLMs Orchestration Media & Vision	Python, PyTorch, OpenAI, Anthropic, Gemini, Llama LangChain, LlamaIndex, CrewAI, N8N, MCP Servers Stable Diffusion, YOLO, OpenCV, Whisper, ElevenLabs	
Cloud & DevOps	Infrastructure BaaS & CI/CD	AWS (Lambda/EC2), GCP (Vertex AI), Azure, Docker Supabase, Firebase, GitHub Actions, Jenkins, Fastlane	
Data & Tools	Databases API & Search Workflow	PostgreSQL, MongoDB, Pinecone, ChromaDB, Redis GraphQL, Elasticsearch, Algolia Figma, Jira, TDD, Agile, Cursor, XCode	

Staff iOS Engineer → Applied AI/ML Engineer

2020 – Present

PayPal / Venmo

AI/ML Evolution & Technical Innovation (2023–Present)

Project Mercury — AI-Powered Agentic E-Commerce Platform

Timeline: June 2025 → Present

● July 2025 — Hackathon Prototype ("Rock-Star Hit")

- ▶ Built a fully functional prototype in 72 hours; gained momentum across org
- ▶ Presented to the SVP of AI, earning immediate backing and leading a high-velocity team

● Oct-Dec 2025 — Model Leadership & Scaling

- ▶ Trained five SDXL LoRA models; achieved 23% loss reduction and 109MB optimized models
- ▶ Implemented MCP multi-agent orchestration and GraphRAG for merchant intelligence

AI/ML Implementation & Automation (2024)

- ▶ Developed AI-powered crash detection system using LangChain + DeepLake with automated DataDog monitors — now adopted org-wide
- ▶ Created 10%+ productivity improvements via AI-powered automation tools
- ▶ Championed AI coding assistants across teams, training colleagues on leveraging AI

iOS Engineering Excellence & Business Impact

Major Product Launches & Partnerships

- ▶ **Venmo x Amazon (2023):** Built sandbox/integration app in two days for partnership launch
- ▶ **Gift Cards (2023):** Led successful delivery of mission-critical feature set for majority iOS user base
- ▶ **QRC Touch-Free Payments (2021):** Led moonshot initiative winning \$60M CVS contract
- ▶ **Amex Partnership (2020):** Built payment-splitting integration for \$400M partnership deal

iOS Innovation & Patents

- ▶ **QRC Widget Patent (2022):** Filed "Interface Widget Tool for Automatic QR Code Generation" (PayPal Ref. OCP.D2021.103924.US1). First team to use SwiftUI for iOS widgets at Venmo. Reduced user friction by 66%
- ▶ **Dynamic Island / Live Activities / App Clip:** Built end-to-end infrastructure including architecting HLDs, LLDs, and Supabase-powered notification systems reaching millions of users

Technical Leadership & Impact

- ▶ Mentored cross-functional engineers on concurrency, accessibility, and feature-flag driven development
- ▶ Partnered with Design Systems to create modern SwiftUI component library that cut feature development time by 30%
- ▶ Built internal AI observability tooling using DataDog to trace inference latency and prompt performance across services
- ▶ Prototype-to-production lead for Team Mercury (2025 AI Hackathon Winner)

iOS Developer/Consultant

2019 – 2020

Google Stadia

- ▶ Worked on Google Stadia for mobile platforms using Flutter/Dart and native iOS plugins
- ▶ Implemented Core Bluetooth integration for Stadia controller connectivity and low-latency communication
- ▶ Utilized Xcode Instruments for performance profiling and CPU/GPU optimization



iOS Developer/Consultant

2018 – 2019

Morgan Stanley

- ▶ Worked on Hybrid (Cordova + Native) Banking and Wealth Management apps for iOS
- ▶ Developed key features: check-deposit, biometric authentication, certificate-pinning, jailbreak detection, push authentication
- ▶ Migrated codebase from 98% Objective-C to 80% Objective-C / 20% Swift

HACKATHON ACHIEVEMENTS & INNOVATION

** Featured highlights — full hackathon history on portfolio*

28+ hackathons attended across **6+ countries** as participant, mentor, and judge. Earned **2 first-place wins** and served as judge at Yale (2×). Recognized globally for innovation and technical excellence.

 **1ST PLACE**

 **MLH @ Bloomberg London (2017)**

Automated Search & Rescue System. Featured in BBC documentary.

 **1ST PLACE**

 **Devcamp NYC (2016)**

Talent Management App. Won among 300+ participants at Google NYC.

 **FINALIST**

 **HackZurich (2018)**

AR Car Buying Tool. Finalist among 400+ participants.

Mentorship & Judging




Hack Yale – Judge (2×)
Yale University



PenApps – Mentor
University of Pennsylvania

SELECT PERSONAL PROJECTS

* Curated highlights — explore 20+ projects on portfolio



Ethereal Dimension

FEATURED



AI/ML & Spatial Computing


Austin DoT Partnership: Built CV system for real-time barricade detection & compliance (99.2% accuracy).

Hylios: AR room scanner using RoomPlan/ARKit for 3D spatial intelligence. Both live on App Store.

Computer Vision YOLO ARKit

RoomPlan CoreML

 View  App Store



VectorVerse Evolve

FEATURED

AI Automation & SEO



Content Pipeline: Fully automated social media platform with n8n workflows & Strapi CMS. 3-stage pipeline: Intelligence → Ideation → Generation.


Agentic SEO: AI-powered SEO strategist with keyword research, geographic targeting & magic reports.

Open-WebUI: Built custom deployment for Azure AI Foundry integration.

n8n Strapi Next.js Azure AI

Open-WebUI

 Pipeline  SEO



Rosicrucian Knowledge Explorer

FEATURED



AI Search & Media Platform

Full-stack RAG search engine for 73K+ vectors from digests, books, symposiums, podcasts, YouTube videos.

PDF viewer with page-jump & highlighting, video and podcast player with timestamp seeking. Qdrant + OpenAI + R2.

Next.js Qdrant R2 OpenAI

Supabase

 Search  Code

EDUCATION



BS in Computer Systems

2012 – 2016

New York City College of Technology, Brooklyn

LEADERSHIP & COMMUNITY

- ▶  Advisory Board Member for multiple tech startups on iOS architecture and AI/ML implementation
- ▶  Hosted technical workshops: SwiftUI, State Machines, AI/ML image generation, DataDog automation
- ▶  Interfaith ERG Chapter Lead (Sikh community): Organized events, secured speakers, created educational content. Built [Gurdwara Langar Seva Game](#) to teach seva traditions