



# Gurinder Singh

Staff Software Engineer (Mobile & AI)

LLM Agents · RAG Pipelines · Mobile · Automation

🌐 Portfolio 🔗 LinkedIn 📩 gsingh622@yahoo.com



SCAN FOR PORTFOLIO

**90M+**

USERS IMPACTED

**28+**

HACKATHONS

**2x**

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

# PROFESSIONAL EXPERIENCE

## 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 × 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