Gurinder Singh

Staff Software Engineer (Mobile & AI)

LLM Agents · RAG Pipelines · Mobile · Automation

🌐 Portfolio   🔗 LinkedIn   ✉ gsingh622@yahoo.com

90M+	28+	2×	🏆
USERS IMPACTED	HACKATHONS	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	

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	🏆 1ST PLACE	🎯 FINALIST
🇬🇧 **MLH @ Bloomberg London (2017)**	🇺🇸 **Devcamp NYC (2016)**	🇨🇭 **HackZurich (2018)**
Automated Search & Rescue System. Featured in BBC documentary.	Talent Management App. Won among 300+ participants at Google NYC.	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 50+ 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