



Gurinder Singh

Staff iOS & AI/ML Engineer | LLM Agents · RAG Pipelines · Mobile · Automation



Portfolio



LinkedIn



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✨ Career Summary

Product-minded iOS engineer evolving into an applied AI/ML builder. Shipped patent-backed QR experiences, Live Activities infrastructure, and Pay With Venmo integrations adopted by millions. Built org-adopted AI/automation pipelines (DataDog crash detection and analysis), led cross-functional delivery with merchants and internal partners, and scaled features that shaped PayPal/Venmo's mobile ecosystem. Recently drove the company's first applied agentic AI initiatives through Team Mercury — a hackathon-born platform integrating image generation, agentic workflows, and LoRA-trained creative models for merchant automation. Recognized for innovation, reliability, and the ability to turn complex ML research into production-ready user experiences.



Core Skills

Languages & Frameworks

Swift, SwiftUI, Python, TypeScript, Next.js, FastAPI

AI/ML Stack

LlamaIndex, Supabase, ChromaDB, Pinecone, Core ML, MLX, LoRA/QLoRA

Mobile Systems

UIKit, WidgetKit, SwiftData, Realm, Combine, UIKit

Cloud & Infra

Supabase Edge Functions, Docker, RunPod, Hostinger VPS, Cloudflare Tunnels

Dev Practices

Async/Await Architectures, CI/CD Automation, Observability, Feature Flags

Creative Tooling

FFmpeg, ComfyUI, Stable Diffusion, ElevenLabs, Whisper-MLX



Experience

Staff iOS Engineer → Applied AI/ML Engineer

2020 – Present

PayPal / Venmo

- Architected merchant features spanning Live Activities, QR code widgets, and Supabase-powered notification systems reaching millions of active users
- Built internal AI observability tooling using DataDog to trace inference latency and prompt performance across services
- Mentored cross-functional engineers on concurrency, accessibility, and feature-flag driven development
- Partnered with Design Systems to create a modern SwiftUI component library that cut feature development time by 30%
- Prototype-to-production lead for Team Mercury (2025 AI Hackathon Winner)

iOS Engineering Excellence & Business Impact

Major Product Launches & Partnerships

- **Amex Partnership (2020):** Built payment-splitting integration for \$400M partnership deal
- **QRC Touch-Free Payments (COVID era):** Led moonshot initiative winning \$60M CVS contract for contactless payments
- **Venmo × Amazon Partnership (2023):** Built sandbox/integration app in two days for partnership launch
- **Gift Cards (2023):** Led successful delivery of mission-critical feature for majority iOS user base
- **Pay With Venmo Checkout (2024–Present):** Key stakeholder driving hypergrowth through merchant integrations, server-side Swift implementation, and end-to-end integration architecture

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:** Built end-to-end infrastructure including server-side Swift implementation

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

Mercury – AI-Powered Agentic E-Commerce Platform (October 2025)

- Built PayPal/Venmo's first applied agentic AI platform for autonomous merchant onboarding and product enhancement
- Pioneered AI image generation with custom-trained SDXL LoRA models producing professional imagery in ~30 seconds, saving merchants \$100–\$500 per product
- Delivered first org-wide MCP (Model Context Protocol) integration for seamless AI agent orchestration
- Achieved 58.5 GPU hours training, 23% loss reduction, 109MB production-ready model managing 5 product categories
- Implemented multi-platform automation managing Venmo, Honey, Facebook/Meta, Google Ads, and TikTok campaigns

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 Developer/Consultant

July 2019 – 2020

Google Stadia

- Worked on Google Stadia for mobile platforms, primarily in Flutter/Dart
- Leveraged iOS domain expertise for native iOS plugins, troubleshooting, and debugging crash reports

iOS Developer/Consultant

April 2018 – July 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

Mobile Developer / R&D

October 2017 – March 2018

Parabit Systems

- R&D for iOS, Android, Cloud, and Blockchain applications
- Created internal tool using Bluetooth Low Energy for wireless firmware upgrades (DFU)
- Built app from scratch using Swift with AWS Serverless (NodeJS/Lambda) and DynamoDB

Mobile Developer / R&D

January 2017 – October 2017

Gedeon GRC

- First software engineer in engineering firm of 70 engineers
- Built Wayaj — first travel app for sustainable and socially responsible vacations
- Developed from scratch using Swift with AWS Serverless backend

Technical Leadership & Team Building

| Mentorship & Knowledge Sharing

- Hosted multiple technical workshops: SwiftUI (first adopter at Venmo), State Machines, Snapshot Testing, DataDog automation, AI/ML image generation
- Created comprehensive documentation serving ML architects and non-technical stakeholders
- Onboarded and mentored multiple senior engineers, creating growth plans and advocating for advancement
- Transformed from individual contributor to technical leader empowering team autonomy

| Cross-Functional Collaboration

- Broke down silos across iOS, Android, Backend, SRE, and Product teams for seamless delivery
- Established product office hours after advocating for better Product representation
- Served as liaison on complex integration projects (Amex, Amazon, CVS partnerships)

Cultural Impact & Community Leadership

| Diversity & Inclusion

- **Interfaith ERG Chapter Lead (Sikh community):** Organized events, secured speakers, created educational content including interactive HTML game
- **Built next generation:** Represented Venmo at Yale hackathons and visited high schools with tech education initiatives
- **Volunteered extensively:** Outside work hours for fundraising and community events, elevating Venmo brand visibility

| Recognition & Awards

- **Multiple PayPal Props Awards:** Paragon (5000 pts), Phenom (1500 pts), Powerhouse (750 pts)
- Consistent "Successful" performance ratings with leadership principle exemplification
- Recognized for: Customer obsession, innovation mindset, collaboration excellence, building next generation



Education

New York City College of Technology, Brooklyn

BS in Computer Systems (Deferred)

March 2012 – March 2016



Hackathons

Avid hackathon enthusiast with **28+ hackathons** attended across **6+ countries** as participant, mentor, and judge. Earned **2 first-place wins** and served as a judge at Yale (2x) and mentor at multiple events.

Featured Achievements

MLH @ Bloomberg London (2017)

 **1st Place**

Automated Search & Rescue System — Won first place among 500+ participants. Built drone rescue system using DJI SDK. Featured in BBC documentary about Hackathons/Hackers.

HackZurich (2018)

 **Finalist**




AR Car Buying Tool — Made it to finals among 400+ participants. Created AR tool to help people buy cars. Featured in Credit Suisse interview. **Attended HackZurich 4x**

Devcamp NYC (2016)




 **1st Place**

Talent Management App — Won first place among 300+ participants at Google NYC. Built app for modeling agencies to interact with talent and customers.

Mentorship & Judging

- **Hack Yale** — Judge (2x) — Yale University, USA 
- **PenApps** — Mentor — The University of Pennsylvania, USA 
- **Hack Yale** — Mentor — Yale University, USA 

Additional Hackathons

-  UPC Barcelona (2016) — Refugee Crowdsourcing App
-  Copenhacks (2017) — Microsoft Copenhagen
-  HackNY (2016) — New York University

- 🇺🇸 Hack Cooper Union — Cooper Union
- 🇺🇸 Hack Dartmouth — Dartmouth University

Keywords (ATS / Search Optimization)

AI Engineer

iOS Staff Engineer

LLM Agents

RAG Pipelines

Supabase

Swift

Core ML

MLX

Stable Diffusion

Automation

DataDog

FastAPI

Next.js

LoRA

MCP

Edge Functions

Applied AI

Hackathon Innovation