



Gurinder Singh

Staff iOS & AI/ML Engineer

 Portfolio

 LinkedIn

 gsingh622@yahoo.com



Scan for Portfolio

Career Summary

Staff iOS & AI/ML 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 worldwide**. Passionate about mentoring engineers, conducting technical interviews, and fostering inclusive tech communities while driving innovation at the intersection of iOS and artificial intelligence.

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 & Infrastructure

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

PayPal / Venmo

2020 – Present

- 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

- **QR Code 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
- Trained on 56k products across 5 categories (cosmetics, electronics, home, fashion, food) with 250 images each for a 109MB production-ready model
- 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

Google Stadia

July 2019 – 2020

- 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

Morgan Stanley

April 2018 – July 2019

- 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

Parabit Systems

October 2017 – March 2018

- 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

Gedeon GRC

January 2017 – October 2017

- 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

Advisory Board & Strategic Leadership

- **Advisory Board Member** for multiple tech startups, providing strategic guidance on iOS architecture and AI/ML implementation
- Conducted **technical interviews** for senior iOS and AI/ML positions across multiple companies
- **Technical mentor** for emerging engineers transitioning from mobile to AI/ML domains
- Strategic advisor on product roadmap decisions and technology stack selections

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

Hackathon Achievements & Innovation

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.

Global Hackathon Participation

- **Hack Yale** — Judge (2x) — Yale University, USA 
- **PenApps** — Mentor — The University of Pennsylvania, USA 
- **Hack Yale** — Mentor — Yale University, USA 
-  UPC Barcelona (2016) — Refugee Crowdsourcing App
-  Copenhacks (2017) — Microsoft Copenhagen

-  HackNY (2016) — New York University
-  Hack Cooper Union — Cooper Union
-  Hack Dartmouth — Dartmouth University

Innovation Impact

- **BBC Documentary Feature:** Featured in BBC documentary about Hackathons/Hackers for MLH London win
- **Credit Suisse Interview:** Featured in Credit Suisse interview for HackZurich AR Car Buying Tool
- **Cross-Cultural Collaboration:** Participated in hackathons across 6+ countries, fostering global tech community connections
- **Technical Mentorship:** Mentored participants at multiple hackathons, sharing iOS and AI/ML expertise

Venmo Innovation Projects

AI/ML Innovation at Venmo

- **Team Mercury Platform** — Hackathon-born agentic AI platform integrating image generation, LoRA-trained models, and multi-platform automation
- **AI-Powered Crash Detection System** — LangChain + DeepLake implementation with automated DataDog monitoring
- **Custom LoRA Training Pipeline** — Trained on 56k products across 5 categories (cosmetics, electronics, home, fashion, food) with 250 images each for a 109MB production-ready model
- **MCP Integration Framework** — First org-wide Model Context Protocol implementation for AI agent orchestration

Mobile Innovation Projects

- **QRC Widget Patent** — "Interface Widget Tool for Automatic QR Code Generation" (PayPal Ref. OCP.D2021.103924.US1)
- **Dynamic Island Infrastructure** — End-to-end Live Activities implementation with server-side Swift

Education

New York City College of Technology, Brooklyn

BS in Computer Systems (Deferred)

March 2012 – March 2016

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