



# Gurinder Singh

Staff Software iOS & AI/ML Engineer

*Building legendary apps at the edge of iOS & AI*

Portfolio

LinkedIn

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SCAN FOR PORTFOLIO

**90M+**

USERS IMPACTED

**28+**

HACKATHONS

**2x**

1ST PLACE WINS



PATENT HOLDER

## 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.

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# CORE SKILLS



## Languages & Frameworks

Swift • SwiftUI • Python • TypeScript • Next.js • FastAPI • Vapor • Objective-C • Flutter/Dart



## AI/ML Stack

LLM Agents • RAG Pipelines • LlamaIndex • Supabase • ChromaDB • Pinecone • Core ML • MLX • LoRA • Stable Diffusion



## Mobile Systems

ActivityKit • WidgetKit • Dynamic Island • SwiftData • Realm • Combine • UIKit • Async/Await



## Cloud & Infrastructure

Supabase Edge Functions • Docker • RunPod • DataDog • AWS Serverless • Lambda • DynamoDB



## Dev Practices

CI/CD Automation • Observability • Snapshot Testing • State Machines • Accessibility



## Creative Tooling

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# EXPERIENCE



**Staff iOS Engineer → Applied AI/ML Engineer**  
PayPal / Venmo

2020 – Present

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

### Team Mercury – AI-Powered Agentic E-Commerce Platform

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

## 📱 iOS Engineering Excellence & Business Impact

- ▶ Amex Partnership (2020): Built payment-splitting for \$400M partnership deal
- ▶ Pay With Venmo Checkout (2024–Present): Key stakeholder with server-side Swift implementation
- ▶ QRC Touch-Free Payments: Led initiative winning \$60M CVS contract
- ▶ QRC Widget Patent (2022): Filed "Interface Widget Tool for Automatic QR Code Generation" – Reduced user friction by 66%
- ▶ Dynamic Island / Live Activities: Built end-to-end infrastructure with server-side Swift

## 👥 Technical Leadership

- ▶ Mentored cross-functional engineers on concurrency, accessibility, and feature-flag development
- ▶ Partnered with Design Systems to create SwiftUI component library that cut development time by 30%
- ▶ Built internal AI observability tooling using DataDog



**iOS Developer/Consultant**  
Google Stadia

July 2019 – 2020

- ▶ Worked on Google Stadia for mobile platforms in Flutter/Dart
- ▶ Leveraged iOS expertise for native plugins and crash debugging

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### iOS Developer/Consultant

#### Morgan Stanley

April 2018 – July 2019

- ▶ Hybrid Banking and Wealth Management apps for iOS
- ▶ Key features: check-deposit, biometric authentication, certificate-pinning, jailbreak detection
- ▶ Migrated codebase from 98% Objective-C to 80% Objective-C / 20% Swift

## TECHNICAL LEADERSHIP & TEAM BUILDING

### Advisory Board & Strategic Leadership

- ▶ Advisory Board Member for multiple tech startups on iOS architecture and AI/ML implementation
- ▶ Conducted technical interviews for senior iOS and AI/ML positions
- ▶ Strategic advisor on product roadmap decisions and technology stack selections

### Mentorship & Knowledge Sharing

- ▶ Hosted technical workshops: SwiftUI, State Machines, AI/ML image generation, DataDog automation
- ▶ Created comprehensive documentation for ML architects and non-technical stakeholders
- ▶ Onboarded and mentored multiple senior engineers with growth plans and advancement advocacy

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## HACKATHON ACHIEVEMENTS & INNOVATION

28+ hackathons attended across 6+ countries as participant, mentor, and judge. Earned 2 first-place wins and served as judge at Yale (2x).



### MLH @ Bloomberg London (2017)

Automated Search & Rescue System – Won among 500+ participants. Featured in BBC documentary.



### Devcamp NYC (2016)

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



### HackZurich (2018)

AR Car Buying Tool – Finalist among 400+. Attended HackZurich 4x

## EDUCATION

### New York City College of Technology, Brooklyn

BS in Computer Systems (Deferred)

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# COMPREHENSIVE TECHNICAL SKILLS (ATS / RECRUITER REFERENCE)

This page provides an exhaustive list of technologies and tools for ATS optimization and detailed recruiter reference. For high-level overview, please refer to Core Skills on page 1.



## Languages & Frameworks

- Swift
- SwiftUI
- Objective-C
- Python
- JavaScript
- TypeScript
- Node.js
- React
- Next.js
- React Native
- Flutter/Dart
- FastAPI
- Vapor
- Express.js
- GraphQL
- REST APIs
- HTML5
- CSS3



## AI/ML & Intelligent Systems

- LangChain
- LlamaIndex
- RAG Pipelines
- MCP Servers
- Manus Platform
- CrewAI
- LangFlow
- Prompt Engineering
- Function/Tool Calling
- Custom GPT Actions
- Multi-Agent Orchestration
- PyTorch
- TensorFlow
- Core ML
- MLX
- scikit-learn
- Stable Diffusion
- LoRA Fine-Tuning
- Whisper-MLX
- Hugging Face
- Cohere
- OpenAI APIs
- Claude API
- OpenRouter
- Ollama
- LM Studio
- ChromaDB
- Pinecone
- Qdrant
- DeepLake
- Dense + Sparse Retrieval
- Semantic Search
- Hybrid Indexing
- Reranking
- Computer Vision
- NLP
- Speech Processing
- ComfyUI
- ElevenLabs

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## Mobile Development (iOS + Cross-Platform)

iOS SDK

UIKit

ActivityKit

WidgetKit

Dynamic Island

ARKit

Core Data

Core Location

Core ML Integration

On-Device Inference

SwiftData

Realm

Combine

RxSwift

Async/Await

BLE

XCTest

Snapshot Testing

Swift Package Manager

Cordova

Accessibility (A11Y)



## Web & Application Development

Serverless APIs

Edge Functions

PWAs

SSR / SSG / ISR

Authentication (OAuth, JWT)

RLS (Row Level Security)

WebSockets

Realtime Communication

SEO Optimization

Performance Profiling



## Cloud Platforms & Infrastructure

AWS Lambda

DynamoDB

EC2

S3

CloudFront

API Gateway

SageMaker

Amplify

CloudWatch

IAM

Cognito

GCP Vertex AI

Cloud Functions

Cloud Run

BigQuery

Firebase

Firestore

Cloud Storage

Vision AI

Speech-to-Text

Cloud SQL

Azure AI Services

Cognitive Search

Azure Functions

Azure OpenAI

Cosmos DB

Azure DevOps

DigitalOcean

Supabase

Vercel

Netlify

RunPod

Replicate

Multi-Cloud Architecture

Microservices

NGINX

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## Data Science & Analytics

- Pandas
- NumPy
- Feature Engineering
- Data Architecture
- Model Evaluation
- A/B Testing
- Experimentation
- PostgreSQL
- SQLite
- MongoDB
- Redis
- Vector Databases



## DevOps & Observability

- Docker
- Docker Compose
- Kubernetes
- Git
- GitHub Actions
- Jenkins
- Fastlane
- CI/CD Pipelines
- Terraform
- Pulumi
- CloudFormation
- DataDog RUM
- DataDog APM
- DataDog Logs
- Amplitude
- Sentry
- New Relic
- Grafana
- Prometheus
- Optimizely
- Crashlytics
- SonarQube
- BrowserStack
- ESLint
- SwiftLint
- Prettier
- TDD
- UI Testing
- Metrics Instrumentation
- Event Tracking
- Feature Flagging



## Automation & Integration

- MCP Server Development
- AI Workflow Automation
- n8n
- Playwright
- Puppeteer
- Selenium
- BeautifulSoup
- FireCrawl
- Webhooks
- API Integration
- Business Process Automation



## Design & Generative Tools

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Figma

Sketch

Adobe XD

Photoshop

Automatic1111

OpenWebUI

FFmpeg

Lottie

Audio/Visual Generation



## Collaboration & Project Management

Agile

Scrum

Kanban

Jira

Linear

Confluence

Notion

Slack

Microsoft Teams

Technical Documentation

Architecture Decision Records

Runbooks

## RECOGNITION & AWARDS



### PayPal Props Awards

Paragon (5000 pts), Phenom (1500 pts), Powerhouse (750 pts)



### Performance Excellence

Consistent "Successful" ratings with leadership principle exemplification



### Cultural Leadership

Interfaith ERG Chapter Lead (Sikh community), Yale hackathon judge, tech education advocate

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