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Professional Summary

- **14+ years of experience** architecting and delivering scalable solutions across Mobile, Web, Cloud, and AI/ML platforms, with deep understanding of enterprise architecture patterns.
- Expertise in iOS, Android, and cross-platform development (React Native, Flutter), delivering high-impact consumer and enterprise-grade apps.
- Strong background in cloud-native architecture using AWS and Azure, including microservices, CI/CD pipelines, and DevOps automation.
- Proven leader in system design and implementation, B2B integrations, and mentoring globally distributed engineering teams.
- Skilled in middleware systems using Java and Apache Kafka for real-time B2B API orchestration and event-driven architecture.
- Adept at aligning technical strategy with business goals and driving innovation in complex, high-scale environments.
- Certifications include AWS Architect Associate, Blockchain Developer, and Generative AI with LLMs.

Professional Experience

Lead System Architect

Pentair, North Carolina — May 2022 – Present

Smart Pool Automation Platform – Pentair Pool, Pro, and IntelliCenter Suite

Pentair delivers a suite of connected mobile/web apps used by consumers and dealers to control and monitor pool equipment. As Lead Architect, I led system design, cross-platform development, and cloud-native architecture across apps built in **React Native, React, Swift, Kotlin**, and integrated with **IoT and demand response systems**.

Product Ecosystem

- **Pentair Pool (Mobile)** – *Consumer app* to onboard and operate pumps, lights, heaters, and chemistry.
- **Pentair Pro (Mobile & Web)** – *Dealer app* to remotely monitor and control pool systems.
- **Dealer Web App** – Web interface (React) replicating Pro app functionality for dealers.
- **Intellicerter Web App** – Unified dashboard (React) for both consumer and dealer device management.

Key Achievements

- Architected and implemented **IoT platform** for device control using AWS (Lambda, API Gateway, S3) and Azure.
- Led development of cross-platform mobile apps using **React Native**, with native modules in Swift and Kotlin.

- Delivered **Apple Watch and home screen widget** integrations to improve accessibility.
- Built **shared service layers and reusable components** across apps for consistent UX and faster time-to-market.
- Integrated **machine learning models (AWS SageMaker)** for predictive diagnostics and device insights.
- Developed **enterprise chatbot (Azure Bot Framework)** to assist dealers with troubleshooting and automation tasks.
- Designed **demand response system** enabling users to participate in utility programs and schedule DR events via mobile.
- Established CI/CD with **Bitrise + SonarQube**, reducing release times and improving quality compliance.

Technologies

React Native, React, Swift, Kotlin, AWS (Lambda, S3, API Gateway, SageMaker), Azure Bot Services, Bitrise, SonarQube, Jira, XCode, Android Studio

Lead Engineer – Mobile & Middleware

Fidelity Investments, New Hampshire — May 2020 – May 2022

NetBenefits App – Workplace Investment & Benefits Platform

Fidelity's Net Benefits app serves millions of employees by offering real-time access to retirement savings, stock plans, health accounts (HSA), and insurance benefits. As a lead engineer, I worked across mobile and middleware layers to deliver secure, scalable, and feature-rich experiences.

Key Achievements

- Led architecture and feature development for the NetBenefits mobile app, enabling seamless investment management and benefits access.
- Developed and maintained core features across iOS, Android, and middleware, ensuring cross-platform parity and performance.
- Modernized dashboard UI components and implemented biometric authentication (Face ID / Touch ID) to improve login security and user experience.
- Designed backend services and Apache Camel-based middleware to orchestrate data from multiple B2B APIs, enabling real-time financial data delivery.
- Implemented secure document upload, account performance summaries, and notification workflows.
- Managed CI/CD processes using Fastlane and Jenkins, enabling reliable build automation and secure release cycles.
- Partnered with UX, compliance, and security teams to ensure feature delivery aligned with financial regulations and enterprise standards.

Technologies

Swift, Kotlin, Ionic, Apache Camel, Spring Boot, AWS ECS/EKS, Fastlane

Lead Mobile & Web Developer

IEEE (Institute of Electrical and Electronics Engineers), New Jersey — Oct 2016 – May 2020

IEEE App – Global Engineering Engagement & Events Platform

IEEE's mobile and web platforms enable engineers worldwide to engage with technical content, connect with peers, and participate in global events and initiatives. As lead developer, I drove the cross-platform development and architectural enhancements of core engagement and event features.

Key Achievements

- Led development of the main IEEE mobile app (iOS, Android) used globally by engineers to explore research, conferences, and local meetups.
- Implemented event discovery and personalization, enabling users to search and RSVP for nearby technical events based on location and interest.
- Built real-time communication features including push notifications, messaging, and member discovery via geolocation.
- Contributed to web development using Angular for personalized dashboards, event timelines, and news feeds.
- Developed reusable widgets and components to streamline UI consistency across the app ecosystem.
- Built middleware using Spring Boot and deployed AWS services (Lambda, API Gateway, Elasticsearch, S3, SNS) for scalable backend support.
- Enhanced offline support and caching for travel-friendly access during conferences and events.

Technologies

Swift, Kotlin, Angular, AWS (Lambda, API Gateway, Elasticsearch, SNS, S3), Ionic

Lead Mobile Developer

Penn National Gaming – Laredo VGT, Pennsylvania — Feb 2016 – Oct 2016

Location-Aware Casino App for Customer Engagement

Developed a smart mobile experience for casino users that integrated geofencing, Bluetooth, and beacon technology to deliver location-specific offers and auto-login experiences near Laredo gaming centers.

Key Achievements

- Led development of native iOS and Android apps that used iBeacon and Bluetooth LE to trigger personalized experiences based on physical proximity to casino locations.
- Built real-time location tracking, push notification handling, and secure user session flows.
- Created custom UI components and interactions to reflect brand guidelines and ensure responsive UX across devices.
- Developed a modular SDK to encapsulate Bluetooth scanning and location logic for reuse across Penn National's app portfolio.

- Collaborated with product stakeholders to optimize beacon placement strategy and customer engagement workflows.

Technologies

iOS (Swift), Android (Java/Kotlin), iBeacon, Core Bluetooth, AWS, Android Studio, XCode, Push Notifications

Mobile Developer

Larsen & Toubro Infotech (LTI), Bangalore, India — Nov 2011 – Feb 2016

Enterprise & Consumer Mobile Solutions across Healthcare, Finance, and Workforce Domains

Delivered iOS and Android apps for global clients across domains such as healthcare, finance, and internal enterprise tools. Worked as a full-cycle mobile engineer on several projects, with a focus on clean UI, secure data flows, and native performance.

Key Projects & Contributions

S+ by ResMed (Healthcare / iOS)

Client: ResMed, USA – Sleep Tracking Health App

- Developed Bluetooth-based sleep monitoring features using Core Bluetooth, HealthKit, and Core Data.
- Integrated with ResMed's bedside hardware to track user sleep patterns and sync health data to iOS.
- Designed background polling, push notifications, and data visualization UI for real-time insights.
- Delivered the app from development to App Store under strict performance and usability guidelines.

InService – Technician Management App

- Built an offline-first, field service app with role-based login, calendar view, barcode/QR scanning, and GPS-based routing.
- Enabled real-time technician scheduling, workflow tracking, and equipment service history retrieval.

RBI & PeopleSoft Mobile Suite

- Developed HR and employee services apps for internal leave requests, pay slips, profile updates, and timesheets.
- Enabled workflow automation across platforms using REST APIs and offline caching.

iExpense / sMiles / Empower

- Delivered multiple apps for enterprise use including expense claims, airline ticketing, and manager dashboards with approval workflows.

Technologies

iOS (Swift, Objective-C), Android (Java), XCode, Android Studio

Education

- **Master of Science in Computer Science**
Arizona State University, USA
- **Bachelor of Technology in Computer Science**
West Bengal University of Technology, India

Certifications

- AWS Certified Architect Associate
- AWS Certified Developer Associate
- The Open Group ArchiMate Certified
- Certified Blockchain Developer
- Generative AI with Large Language Models

Skills & Technologies

- **Languages:** Swift, Kotlin, Java, Python, TypeScript, Scala, C#
- **Frameworks:** React, React Native, Angular, Spring Boot, Express
- **Mobile:** iOS (SwiftUI/UIKit), Android (Kotlin/Java), Flutter, Unity
- **Cloud & DevOps:** AWS (ECS, EKS, Lambda, S3, API Gateway), Azure, Firebase, Bitrise, Jenkins
- **AI/ML:** AWS SageMaker, Scikit-learn, NLP, Amazon Comprehend
- **Middleware & Messaging:** Apache Kafka, RabbitMQ, REST APIs
- **CI/CD & Tools:** Git, Bitbucket, Jira, SonarQube, Fastlane, XCode, Android Studio