

# Ninad Madhav

Staff Android Engineer / Senior Android Engineer

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## PROFILE SUMMARY

- Staff Android Engineer with 15+ years of hands-on experience building scalable mobile apps and SDK platforms across cybersecurity, video collaboration, and enterprise domains
  - Strong expertise in SDK development and monetisation systems, including ad mediation platforms with telemetry-driven optimisation
  - Built and optimised real-time communication systems using WebSocket and media streaming, improving performance and stability across varying network conditions
  - Improved crash-free sessions to 98%+ through performance engineering, observability, and proactive quality practices
  - Deep experience in Kotlin, Android architecture (MVVM, modularisation), and cross-platform development using NDK (C++)
  - Experience working on large-scale applications with millions of downloads, focusing on performance, scalability, and user experience
  - Exploring AI-assisted mobile features, including recommendation workflows and LLM-based integrations
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## CORE COMPETENCIES

- Mobile Platform Architecture
  - Client-Server Contract Design & Real-Time Communication
  - Android Performance Engineering
  - Media Streaming & Video Collaboration
  - Mobile Security Hardening
  - SDK / Monetisation Platform Design
  - Modularization & Build Optimization
  - Offline-First System Design
  - Kotlin Coroutines / Flow Concurrency
  - Crash Analytics & Telemetry Systems
  - Cross-Platform Shared Logic (NDK / C++)
  - AI Feature Integration Readiness
  - Technical Leadership & Mentorship
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## PLATFORM ARCHITECTURE EXPERIENCE

- Built and scaled Android modularisation architecture, reducing clean build times by ~25% and enabling parallel team development
- Defined scalable platform architecture patterns, improving maintainability and accelerating feature delivery cycles
- Optimised media handling pipelines for low-latency video conferencing and real-time device redirection capabilities
- Designed monetisation SDK mediation architecture integrating multiple ad networks with telemetry-driven performance tracking
- Established CI/CD quality gates, improving crash-free sessions to 98%+ and reducing regression risks

- Implemented mobile security hardening strategies, including secure storage, TLS enforcement and network protection layers
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## **PROFESSIONAL EXPERIENCE**

### **Software Architect / Senior Engineer**

Persistent Systems | Jan 2024 – Present

#### **Alludo – RAS Client Android app**

- Designed and implemented a cross-platform C++ abstraction layer integrated with Android NDK components, enabling shared business logic reuse and reducing platform-specific duplication
- Enhanced RDP client media pipeline handling audio/video/camera redirection using low-latency streaming strategies and efficient resource utilisation techniques
- Introduced pre-commit static analysis checks using ktlint and Detekt, improving early defect detection and overall code quality standards
- Strengthened application stability through automated quality validation workflows, contributing to improved crash resilience

#### **Ivanti - Incapptic app distribution platform**

- Contributed to enhancements in a Python/Django-based mobile DevOps platform enabling automated app distribution across multiple enterprise app stores, including Google Play, Apple App Store and MobileIron
  - Updated Ansible-based environment provisioning scripts to enable compatibility with Apple Silicon (ARM) based development machines
  - Resolved Django database migration issues, ensuring smoother release upgrades and deployment stability
  - Supported improvements in automated mobile build and deployment workflows for enterprise mobility teams
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### **Lead Software Engineer / Senior Engineering Consultant**

Verizon Data Services | May 2021 – Dec 2023

- Modernised legacy video collaboration app architecture by migrating to MVVM, Kotlin Coroutines and Jetpack components
  - Achieved ~30% performance improvement and higher user engagement metrics
  - Collaborated with backend teams to define WebSocket communication contracts enabling in-call messaging and real-time chat synchronisation
  - Optimised real-time communication flows and background execution behaviour, improving call stability across varying network conditions
  - Maintained 95%+ unit test coverage and improved release stability
  - Led team of 5–7 engineers delivering features on a six-week release cadence
  - Oversaw application security compliance and performance regression prevention
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### **Senior Software Development Engineer**

McAfee India | Mar 2016 – May 2021

- Contributed to the development of McAfee Mobile Security applications with 10M+ downloads and ~100K monthly active users, supporting large-scale production stability and performance
- Leveraged telemetry and user behaviour analytics to identify friction points and optimise monetisation flows, improving premium conversion opportunities
- Collaborated with backend teams to design license validation workflows enabling periodic client-server sync to determine user subscription tier and entitlement status

- Designed and implemented ad mediation SDK architecture, integrating multiple ad networks with real-time performance tracking
  - Introduced feature flag-driven architecture enabling controlled feature rollout and experimentation
  - Implemented certificate pinning and network security protections, mitigating MITM and unsafe Wi-Fi risks
  - Built partner-facing SDK modules, simplifying integration efforts for external enterprise clients
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### Senior Software Engineer

Impetus Technologies | Mar 2013 – Mar 2016

- Led hybrid mobile platform initiatives, reducing development effort by ~50%
  - Delivered cross-platform enterprise apps using Ionic and Cordova frameworks
  - Mentored junior engineers and supported client releases
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### Senior Software Engineer

Diaspark Infotech | Jul 2010 – Feb 2013

- Contributed to Android capability building and led requirement analysis & sprint delivery
  - Handled direct client communication and demo cycles
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## TECHNICAL SKILLS

**Languages:** Kotlin, Java, Python, C++, JavaScript

**Android Framework & Libraries:** Jetpack Components (ViewModel, LiveData, Navigation, WorkManager), Retrofit, OkHttp, Room, Firebase, RxJava

**Architecture:** MVVM, Modularisation, Clean Architecture

**Concurrency:** Kotlin Coroutines, Flow, Structured Concurrency

**Security:** TLS, Encryption, Secure Storage, Network Hardening

**Performance & Stability:** Android Profiler, LeakCanary, ANR Analysis, Startup Optimisation

**Build & CI/CD:** Gradle Modular Builds, Jenkins, TeamCity, GitHub Actions

**Analytics:** Crashlytics, Mixpanel, Google Analytics

**Backend Exposure:** Ktor, Django, REST API Design

**Database:** Room, SQLite, Firebase

**AI Exploration:** Retrieval-based recommendation workflows, LLM integration patterns, conversational UX exploration

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## AI PRODUCT INNOVATION – PERSONAL PROJECT

Smart Travel Recommendation Platform (Personal Project)

- Designing an AI-driven Android travel assistant enabling preference-based destination discovery, itinerary generation and contextual travel suggestions
  - Developing lightweight backend services using Ktor to expose recommendation APIs such as destination listing and travel preference handling
  - Exploring retrieval-based knowledge pipelines and agent-style workflow orchestration for intelligent recommendation refinement
  - Building scalable mobile UX patterns for AI-assisted decision making and personalised content delivery
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## EDUCATION

Bachelor of Engineering – Electronics & Communication | Jul 2005 – Jun 2009