Ryan Jennings

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Senior Software Engineer | Mobile + Platform Systems | Secure SDLC Specialist

Strategic Axes: Backend Development • Application & Platform Security • Developer Tooling • Cloud Infrastructure

Senior software Engineer with 15+ years of experience architecting and delivering secure, scalable mobile platforms. Proven expertise in **mobile-first full-stack development**, **cloud-native backend systems**, and **fintech-grade authentication**. Specialized in **secure SDLC**, **agile product delivery**, and **cross-functional teams** to build resilient, user-centric applications.



Experience

Freelance — Micrantha Software Solutions (Owner)

Remote / Vancouver, BC, Apr 2016 - Present

Implemented mobile apps, infrastructure, and cloud services to deliver custom solutions for passive income and complex client challenges using Python, Kotlin Multiplatform, Swift, C, Go, C#, PostgreSQL, and Kubernetes.

- Built open-source multiplatform SDK with turn-based mobile game, offline AI vision and on-device edge models
- Developed .NET Core authentication API on AWS to enable secure game account creation and dynamic player data management, supporting scalable multiplayer experiences (SQS, Lambda) and real-time personalization (DynamoDB)
- Developed Python APIs for invoicing and TD Bank payment integration, including schema, automated testing and validation to ensure secure, reliable financial transactions
- Architected lab infrastructure using Kubernetes, Flux, Terraform, and Ansible for blue/green multi-cloud deployments
- Self-hosted Firebase-compatible backend with GraphQL & image vector search to boost matching accuracy and efficiency

Technical Lead (Mobile) — Manulife Financial

Remote / Toronto / Boston, Apr 2024 – Apr 2025

Hired to lead React Native mobile development with a retirement app, authentication, and infrastructure enhancements. Strengthened code quality and team productivity via architecture, agile practices, security, CI, and tech knowledge-sharing.

- Led mobile platform modernization on iOS and Android for financial services apps with thousands of daily users
- Resolving Xcode build and dependency issues to accelerate feature delivery with application teams within first 3 months
- Hardened mobile session authentication process by debugging integration and upgrading third party security tools (Outseer)
- Collaborated with compliance and product teams to ensure secure data handling and regulatory alignment
- Cut security debt: 5% fewer vulnerabilities, 3% higher risk acceptance; increased data privacy posture
- Boosted login speed ~20% via state optimization; led React Native UI/UX rebrand; assisted Node/NestJS backend
- Added survey engagement hooks (Medallia) with a vendor and configuration agnostic design, improving user rating collection
- Upgraded analytics stack (Adobe, NewRelic), tightened data assurance, aligned cross-functional needs
- Fostered a culture of engineering excellence through architectural guidance; presented slides on topics
- Improving Jest unit test baselines for CI/CD with a focus on dependency injection, RxJs, and Redux

Lead Mobile Engineer — OpenArchive (Digital Archiving)

Remote / Oakland, CA, Feb - May 2024

Led iOS/Android architecture and streamlined app delivery, enhanced UX via refactoring, managed open-source contributions, and aligned distributed teams with exec priorities.

- Fixed UX and file-transfer blockers; introduced reusable UI components using SwiftUI and Kotlin Jetpack Compose
- Designed TLS strategy for mobile architecture with Tor support, native platform integration, crypto agility, config management, runtime attestation, and CI/CD analysis
- Wrote unit tests to assure functionality of core features and privacy tools using Swift Actors
- Established composable mobile architecture to streamline development, boost maintainability, and cut technical debt
- Scaled team by recruiting and onboarding contractors to meet tight deadlines; collaboration with Tor, Guardian Project leads
- Development of experimental cloudflare serverless attestation APIs in Node.js

Android Security Developer (Independent Lead) — Atimi Software

Vancouver, BC • *Oct 2021 − Feb 2023*

Contributed to overseeing application security and performance with a focus on authentication; conducted pen tests to uncover and remediate vulnerabilities, safeguarding user data.

• Redesigned financial services app architecture in Kotlin to meet evolving privacy and compliance standards

- Coordinated dev, demoing slides, and ops to integrate features, optimize performance, and bolster preventative security
- Supported penetration testing with security tools research and hands-on exploitation/defense techniques to cut vulnerabilities

Software Engineer II (Mobile) — Cvent Canada (Conferences)

Vancouver, BC / Remote • Jun 2015 - May 2020

Enhanced mobile event app: ensured cross-platform compatibility, implemented beacons and analytics, and upheld React/iOS/Android standards.

- Supported 10k+ concurrent users per conference, boosting event experience and market growth
- Built analytics dashboards for iOS registration, integrating React Native into ObjC/Swift, driving data-informed event management
- Delivered award-winning Android beacon (BLE) implementation, elevating wireless tech and company profile
- Enabled Cvent acquisition (2017/18) through strategic mobile solutions
- Improved tablet support and testing cross-device compatibility; worked with jenkins for builds
- Worked with backend APIs client side; debugging enterprise client SOAP integrations into backend
- Utilized Android Studio for in-depth debugging and performance profiling to resolve critical support issues
- Prototyped live polling with React Native, Couchbase, and PowerPoint for real-time engagement

Earlier Career Highlights

<2015

- **ePACT Network**: Development of native mobile application, & automation framework in Appium; design of backend services in Java/Tomcat to power privacy first encrypted mobile data sync, dynamic UI, and push notifications
- Panoramic: Shipped consumer mobile apps and casual games on Windows and iOS using C++ and C#
- Novax Industries: Embedded testing (virtual & field) and C++ development; C# ZigBee configuration application improving installs
- Built and maintained live backend game server in C supporting thousands of users (avg ~100 peak)

🧪 Projects / R&D

- Eyespie: privacy-first kotlin multiplatform mobile AI with offline visual clues and local inference (repo)
- Garden: postgres/sqlite extensions for scalable hybrid-NoSQL native JSON data sync over edge peer to peer (MQTT, CDRT)
- **Mobuild Envuscator**: a cross platform mobile SDK using CI/CD to randomly obfuscate environment configuration at build time; decodable at runtime for an extra security layer; mitigates OWASP Mobile Top Issue (repo)
- Al in Practice: LLM/MCP/Agent automation workflows and frameworks for development and lightweight training
- Security: Exploration of MiTM, threat modeling, obfuscation, rooted device detection and tools for mobile threat defense

Education & Certifications

- Diploma, Computer Systems BCIT, 2020
- Associate CSSLP (Secure Software Lifecycle Professional) ISC2, 2025
- AWS Certified Cloud Practitioner Amazon, 2021
- Additional & Participation (BCIT, Sun Java Developer, Pentesting, Ethical Hacker, Secure Coding, Kubernetes)

Recognitions & Affiliations

- Awards: Wireless Technology Award (2017) · BCTIA Emerging Company Award (2011)
- Innovation: Transit Pilot TransLink + City of Chicago (2010)
- Communities: OWASP · DEFCON · ISC2 · Vancouver AI Meetup · DCTRL

Compentencies

Languages & Frameworks: Python, C/C++, Kotlin, Java, C#, TypeScript, JavaScript, Swift, Objective-C, Elixir, GoLang, Bash Protocols & Standards: SMTP, HTTP, TLS, TCP/IP, Zigbee, MQTT, GPIO, BLE, GPS, RAFT, CDRT, Token Rings, Curl, SOAP, Telnet Frontend & Mobile: KMP, Remix (SSR), React (Web + Native), PWA, Android, iOS, Compose, XCode, Appium, Fastlane, Headless Backend & DevOps: FastAPI, Node, Servlets, PostgreSQL, Docker, Kubernetes, AWS, GitHub Actions, Jenkins, Ansible, Terraform Security & Testing: CSSLP, Pen Testing, AuthZ/AuthN, OWASP, Frida, MobSF, Burp, Wireshark, Postman, Valgrind, GDB, NMAP Architecture & Delivery: Microservices, SOLID, Domain-Driven Design, MVVM, CI/CD, Infrastructure as Code, Serverless AI & Automation: OpenCode, MCP Tools, Agents, Embeddings, Prompts, OLlama, MLKit, CoreML, Tensorflow, MediaPipe