

Alec Dipasquale

Software Engineer • AI Agents & Cloud

alec-dipasquale.com — projects, demos & work history

Ocean Township, NJ • alecdipasquale@gmail.com

LinkedIn: linkedin.com/in/alec-t-dipasquale • GitHub: github.com/Alec-Dipasquale

Selected Engineering Achievements

- Built a production agentic meeting assistant: real-time audio capture and local Whisper GPU inference feeding a Claude-powered agent for live action-item extraction and noise filtering, exposed as an MCP server with 16 tools so LLM agents can query and act on meeting data.
- Designed a machine-actionable data architecture for an enterprise inventory system — stable identifier schemes, controlled vocabularies, and a strict location hierarchy engineered so automated workflows and AI agents can key on fields deterministically rather than parsing free text.
- Improved launcher default success rates from ~55% to 75%+ by redesigning cold-start execution, optimizing async orchestration, and reducing main-thread workload via lazy initialization.
- Built a 39-theme icon theming pipeline (Canny edge detection, EDT structure extraction, skeleton rendering) on Firebase Cloud Functions with client-side caching and adaptive previews.
- Designed a cost-saving enterprise architecture using non-premium PCF controls and postMessage signaling to deliver rich Power App overlay/modal experiences without Premium licensing.

Professional Summary

Software Engineer with 4+ years of experience building AI-powered tooling, LLM agent integrations, Android applications, and cloud-backed services. Hands-on with the modern agentic stack — MCP server development, LLM tool-calling, local model inference, and AI-assisted engineering workflows — with a track record of shipping production systems embedded directly in business operations. Strong emphasis on clean architecture, structured data design that automation can act on reliably, and efficient backend engineering.

Technical Skills

AI & Agentic Systems: Claude/Anthropic SDK, OpenAI APIs, MCP server development, LLM tool-calling, Whisper (local GPU inference), prompt engineering, AI-assisted development (Claude Code)

Languages: Kotlin, Java, C#, TypeScript, Python, Bash, SQL, DAX

Backend & Cloud: Firebase (Firestore, Cloud Functions), Cloud Run, Azure Functions (.NET 8), Azure Static Web Apps, REST APIs, data pipelines, ffmpeg processing

Data & Analytics: Power BI, DAX, TMDL semantic modeling, SharePoint Lists, image processing (edge detection, EDT, morphological ops)

Android Engineering: Jetpack Compose, Room, DataStore, WorkManager, ExoPlayer, Hilt, Navigation

Enterprise Tools: PowerApps, Power Automate, SPFx, PCF Controls, Outlook Add-ins, Microsoft Graph API

Automation & Tooling: GitHub Actions, CLI tools, ingestion automation, scripting

Architecture & Testing: MVVM, MVI, Clean Architecture, Unit Tests, Compose UI Tests

Experience

Panoramic Window & Door Systems — Software Engineer (Contract), AI & Automation (July 2025 – Present)

- Sole software engineer for an AI-driven internal platform — 30+ internal tools, apps, and components shipped solo in under a year across TypeScript, C#/NET, and the Microsoft cloud.
- Developed a real-time agentic meeting assistant using WASAPI loopback capture, local Whisper inference (RTX 4070 Ti), and Claude AI for live action-item extraction — exposed via an MCP server with 16 tools enabling LLM agents to query transcripts and act on meeting data.
- Designed the location data architecture (Site/Building/Location/Fleet hierarchy) for an enterprise inventory system, defining stable identifier schemes and controlled vocabularies so automated workflows and AI agents

key on structured fields deterministically, plus a reusable cascading location-picker component.

- Shipped a Teams-embedded [mobile field app](#) for installation crews with photo capture, thumbnail-generation pipelines, and reusable gallery components.
- Built Outlook integrations end to end: an Office.js add-in (custom manifest, Dialog API) and a serverless email-archival API (C#/ .NET 8, Azure Functions) saving emails and attachments to SharePoint via the Microsoft Graph SDK.
- Engineered a non-premium PCF + wrapper-site architecture with postMessage signaling, delivering rich overlay/modal Power App experiences while eliminating Premium licensing costs.
- Delivered executive bid-analytics dashboards (Power BI, DAX, TMDL semantic models) with run-rate projections and pipeline trend tracking, developed through AI-assisted engineering workflows (Claude Code) against governed SharePoint data.

Glacira LTD — Founder & Lead Android Engineer (Feb 2025 – Present)

- Designed and built [NextUp Launcher](#) with dynamic paging, drag-and-drop, folder logic, multi-cell spanning grid, and animated drawers.
- Built a 39-theme deterministic icon theming pipeline on Cloud Functions (Canny edge detection, distance transforms, text-region detection, skeleton rendering) with client-side disk caching and preview CDN.
- Built backend sync on Firebase Firestore with a Cloud Run ffmpeg microservice for video thumbnail extraction; shipped Google Play Billing, profile switching, search, and notification management.

Water Rabbit Studios — Co-Founder & Android Developer (June 2024 – Feb 2025)

- Co-founded a two-person studio and built Stellar AI, an OpenAI-powered Android app for personalized content generation — structured prompt handling, response caching, and dynamic UI rendering for LLM-driven responses; owned architecture, backend, and local data layer end to end.

ReachMobi — Android Software Engineer (April 2022 – June 2024)

- Led development of [News Home](#) and All Weather Launcher for a large Android user base, engineering custom launcher UI architecture with multi-page layouts, dynamic regions, gesture systems, and animations.
- Built optimized REST API layers with batching, caching, pagination, and async parsing; reduced network overhead and load latency with prefetch pipelines and cold-start optimization.
- Developed automation scripts in Kotlin and Bash for ingestion, content transformation, and QA tooling; created CLI tools for test data generation, feed simulation, and deployment support.

Projects

Agentic Meeting Assistant (MCP Server)

- Real-time transcription and meeting-intelligence agent: WASAPI audio capture, local Whisper GPU inference, and Claude-powered filtering and action-item extraction during live calls.
- Exposes 16 MCP tools for LLM agents to search transcripts, extract commitments, and drive follow-up workflows.

NextUp Launcher

- Custom Android launcher (drag-and-drop paging, multi-cell grid, profile switching) with a 39-theme server-side icon theming system — Firebase Firestore, Cloud Functions, Cloud Run ffmpeg service, and Google Play Billing.

Education

Montclair State University — B.S. Computer Science (2018–2021)

Brookdale Community College — A.S. Computer Science (2014–2016)