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## Summary

Android SDK/NDK/AOSP, audio/video media and RTC streaming engineer with deep experience in low-latency media systems and AI-assisted features. Original creator of **Vibe** (1997), co-creator of **Sonique** (1998) MP3 players; maintainer of major **open-source** project **DistroAV (OBS-NDI)** (~6M downloads), contributor to **open-source** projects OBS, langchain, livekit, and personal. Strong in Kotlin/Java/C/C++, networked streaming, and debugging large codebases. Experience with LLMs (HuggingFace, Ollama), MCPs, RAGs, etc.

## Core Skills (Apple Music-aligned)

Android (SDK/NDK, AOSP) • Kotlin/Java/C/C++ • MediaCodec • AudioTrack • AndroidX Media (ExoPlayer) FFmpeg • Media codecs (AAC, FLAC, G.711, H.264, MP3, MP4, PCM) • Audio processing (AEC/AGC/NS) Networked streaming (NDI, SIP, RTP) • BLE • AWS • Firebase • CI/CD • Unit testing (JUnit, Mockito, MockK, Robolectric) • Profiling & sanitizers (ASan, LSan) • Open Source: DistroAV (OBS-NDI), OBS, langchain, livekit, et al. • Active on StackOverflow • Proven collaborator, communicator, solver, leader, mentor and learner. Platforms: Android, iOS, macOS, Unix/Linux, Windows, SoCs (RaspberryPi, Jetson, ESP32, STM32)

## Professional Experience

### Mynd.ai / Promethean - Staff Android Software Developer, AP9 Tech Lead

Seattle, WA • 2020-2024

- Led Android (AOSP) for ActivPanel 9 IFPDs (65"/75"/86"); shipped 500K+ units.
- Delivered audio (AEC/AGC/NS), video (HDMI/DP/EDID/CEC/ARC/DRM/HDCP), firmware OTA.
- Migrated Android 9 → 11 (>2M LOC); standardized Crashlytics & telemetry across 30+ apps.

### Pebblebee - Senior Mobile/Android Developer, Tech Lead

Issaquah, WA • 2015-2020

- Architected and built Android/iOS apps for BLE tracking devices with real-time interactions.
- AWS/Firebase integration; crash analytics; background BLE scanning.

### Twisted Pair Solutions (Motorola Solutions) - Staff Principal Software Engineer

Seattle, WA • 2009-2014

- Shipped real-time PTT/RoIP clients on Android/iOS/wearables.
- Low-latency audio streaming using AMR, G.711, Opus, Speex, MP3, PCM.
- On-site debugging for mission-critical customers.

## Google - Software Development Engineer in Test

GOOG-411 & Google Voice VoIP Backend • Seattle, WA • 2005-2009

- Built SIP and RTP automation frameworks; validated VoIP backends and client/server media paths.
- Performance/scalability testing and continuous build systems.

## Microsoft - Software Development Engineer in Test

RTC & Distributed Meetings • Redmond, WA • 1998-2005

- Tested VoIP/SIP audio and panoramic video conferencing (RoundTable) and RTC servers.
- Audio quality validation using TIA/ITU-T standards; worked across client, drivers, and firmware.

## Night55 - Co-Founder / Developer (Vibe & Sonique MP3 Players)

Bozeman, MT • 1997-1999

- Created **Vibe**, co-created **Sonique** (skinnable UI, real-time visualizations, plug-ins) media players.
- Implemented playlist management, playback pipeline and codec support (MP3/PCM)
- Acquired by MediaScience (1998); **Sonique** acquired by Lycos (1999 for \$38.8M).

## Selected Projects

- **DistroAV (OBS-NDI)** - Admin/Maintainer, Lead Dev (2023-Present): OBS Studio NDI plugin for real-time A/V streaming; ~6M downloads, ~10K daily launches; C/C++ Qt with NDI; cross-platform stability and releases.
- **NightVsKnight** - Founder (2019-Present): PiP dual-PC streaming with OBS automation; custom .NET audio tools and vocoder; Qt NDI monitor/capture; NVIDIA Maxine-based voice effects.
- **AlfredAI** - Creator (2025): Kotlin & Flutter push-to-talk AI assistant using OpenAI WebRTC Realtime; phone/watch + Bluetooth audio routing. (Supporting repos: langchain\_dart WebRTC fork, openai-realtime-api-beta, openai-openapi-kotlin)

## Patents

WO2013116741 - Tip-Ring-Ring-Sleeve Push-To-Talk Systems

WO2013154722 - Pulsed Input Push-To-Talk Systems

## Education

Montana State University - Computer Science • Virginia Polytechnic Institute - General Studies

## Citizenship

U.S. Citizen - no visa sponsorship required.