

HIMANSHU SHAILESH ADWANI

Seeking Summer 2027 Software Engineering Internships | Built Google Cast support for a 250,000+ install app

State College, PA (open to relocation) | (814) 663-7207 | himanshu.adwani@outlook.com

himanshu.sh | github.com/Monochromish | linkedin.com/in/himanshu-adwani

EDUCATION

The Pennsylvania State University – University Park, PA

Bachelor of Science in Computer Science

Aug 2024 – May 2028 (expected)

Dean's List: Fall 2024, Summer 2025

Relevant coursework: Data Structures, Object-Oriented Programming, Discrete Mathematics for Computer Science, Introduction to Systems Programming (in progress), Programming Language Concepts (in progress)

EXPERIENCE

Senior Lead Developer

Nov 2022 – Present

Cider Collective – maker of Cider, a paid Apple Music client for Windows, macOS and Linux (250,000+ installs)

Remote

- Built Cider's current Google Cast support, first shipped to stable in Jul 2026 as an opt-in feature: a CastV2 sender in TypeScript and C# with protobuf framing hand-encoded over TLS, heartbeats and mDNS device discovery.
- Wrote the TV receiver's MSE/EME playback pipeline: plays byte-range CMAF segments through the licensed Widevine/EME path and keeps a bounded buffer across seeks; later added synced lyrics and audio-only speaker support.
- Designed a rate-limited license-request service so the TV never holds Apple Music credentials: the desktop app approves each license request only while a live, time-limited grant is active.
- Led the rebuild of the app's settings system, replacing eight hand-built Vue pages with typed setting lists that later categories also use, and rewrote its search to handle typos, accents and languages written without spaces.
- Developed features from the Vue interface to the Electron app: library sorting and search, saving the queue as a playlist, editorial album banners, and its first tray, menu bar and configurable keyboard shortcuts.
- Refactored the Web Audio effects chain, fixing Dolby Atmos compatibility, clipping and memory leaks; in the Windows .NET app, stopped WebView2 painting while hidden, released leaked audio sessions and fixed high-DPI menus.

Firmware Project Manager

Sep 2026 – Present

Nittany Motorsports (Penn State Formula SAE Electric) – Electronics Team

University Park, PA

- Developed SD-card CAN logging in Vector BLF format for the car's ESP32-C6 telemetry unit, with an allocation-free classifier that flags sessions containing faults or drive data, covered by host-run software-in-the-loop tests.
- Fixed a use-after-free in the CAN transmit path and out-of-bounds ESP-NOW parser reads that dropped live telemetry.
- Unified STM32 and ESP-IDF builds behind one containerized CLI (build, lint, DBC code generation, SIL tests, flashing) and ran CI on the same images, caching the 3 GB STM32 image on GHCR by input hash.
- Embedded a post-link header (git commit, branch, size, CRC) in every STM32 binary so the team can verify which firmware is running on the car.

PROJECTS

airplay-core – AirPlay 2 sender library

Rust | Oct 2026

- Wrote an AirPlay 2 sender with 559 tests: HomeKit SRP/Ed25519 pairing, a ChaCha20-Poly1305 encrypted RTSP channel and a PTP grandmaster clock; verified realtime ALAC playback on Apple TV 4K hardware.
- Exposed a C ABI with panic-safe FFI boundaries and .NET/Node bindings, cross-compiled for Windows, Linux and macOS.

Gust – Encrypted peer-to-peer file transfer

C#, .NET | Sep 2026

- Designed a transfer protocol with its own mDNS discovery, pinned mutual TLS, code-based pairing using a commitment scheme, and resumable uploads hashed while streaming; covered by 406 automated tests.

TECHNICAL SKILLS

Languages: C, C++, Rust, TypeScript, C#, Go, Python, JavaScript, Bash

Systems & Protocols: TLS/mTLS, mDNS, protobuf, Google Cast, AirPlay 2 (RTSP, PTP), CAN, Widevine/EME, HLS/CMAF

Platforms & Tools: Linux, Node.js, Electron, .NET, Vue/Nuxt, Docker, GitHub Actions, Nix, STM32, ESP-IDF, Git