

Manav

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Professional Summary

Systems-oriented developer with expertise in low-level systems programming and contributions to the NixOS ecosystem. Skilled in languages such as Zig, Rust, and Haskell, and experienced in declarative tooling (Nix). Passionate about building performant and maintainable systems, and comfortable working in high-autonomy environments.

Technical Skills

Languages: Zig, Rust, TypeScript, Haskell, Scala, Go, Shell, VHDL, Java

Technologies: NixOS, Git, GitHub, Jujutsu, Unix/Linux, PCB Design.

Development: Systems Programming, Functional Programming, Declarative Configuration

Tools: Nix, Git, GitHub, Unix/Linux, Kicad.

Professional Experience

Freelance Developer — Independent Remote

May 2023 — Present

Providing software development and consulting services | systems programming, web development, and automation.

- Delivered comprehensive software development and consulting services to 10+ clients, specializing in systems programming, web development, and automation solutions, resulting in 20 percent faster project delivery times.
- Stayed up-to-date with emerging technologies to provide cutting-edge solutions.

Open Source Contributions

- Contributor to **NixOS**: package updates, build fixes, ecosystem maintenance.
- Contributor to **typelevel/cats-effect**: a functional Scala effects library.

Projects — Programming

NixOS Contributions — *Ongoing*

- Maintained packages in Nixpkgs.
- Debugged builds, improved reproducibility.
- Collaborated on upstream issues.

Bootloader — *Zig, GitHub*

- Custom x86 bootloader in Zig.
- Stack setup and memory layout.

Crimson Star — *Scala, GitHub*

- 1st to Develop a parser and bytecode emitter for the Starlark language, compiling it to WASM bytecode.

Hikikomori — *TypeScript, GitHub*

- Browser extension recommending anime.
- Async flows, APIs, and lightweight UI.

Clipboard — *Zig, GitHub*

- Cross-platform clipboard utility.
- Memory safety, clean API.

axolotl — *Rust, GitHub*

- A browser engine being written from level 0.
- Wrote both Html and CSS parsers.

Projects — Electronics

NAT Router — *ESP32, ESP8266*
[view image](#)

- Custom NAT router with ESP32 + directional antenna.
- Stepper-controlled signal tracking via ESP-NOW.

ESP32-C2-Mini Dev Board —
PCB Design - [view screenshot](#)

- Designed custom dev board with USB and antenna routing.
- Optimized for small form factor and ease of flashing.

Spartan-6 Dev Board — *PCB Design - [view screenshot](#)*

- Created a breakout board for Xilinx Spartan-6 FPGA.
- Included power rails, JTAG header, and decoupling.

Education

Netaji Subhas University of Technology (NSUT), Delhi

B.Tech in Electronics and Communication Engineering

2023 — Present