

NICHOLAS B. LUDWIG

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SUMMARY

Scientist-turned-software engineer building developer platforms and tooling. On the technical side, I have architected and written a wide range of software, including a one-stop developer SDK, a p2p OS, agent frameworks, and more. On the leadership side, I have managed as many as six engineers; interfaced with other departments and companies; presented and discussed my work in public venues. I am a team player, a fast learner with broad interests, and I care deeply about designing clean, pleasant APIs.

EXPERIENCE

Hyperware FKA Kinode FKA Uqbar

February 2022 - Present

Software Developer to Lead Developer

- Architected, wrote, and maintained Rust developer SDK: template, build, test, deploy, publish, all in one convenient kit; iterated from community feedback and dogfooding; used by every Hyperware dev
- Architected and wrote MVP of Rust Wasm VM p2p OS (hyperdrive) inspired by Erlang and Midori (fault-tolerance and concurrent processes with message-passing) adapting bleeding-edge libraries
- Improved DevEx by contributing to core userspace libraries; provided async concurrency to userspace processes and intuitive bindings for devs to reduce boilerplate
- Built all Hyperware work open source on GitHub; contributed to OSS projects (popOS, OpenClaw)
- Expanded and maintained developer documentation, iterating with community devs to improve
- Led and contributed to cross-functional app development: managed engineers extending DM-only p2p chat to CRDT-backed group chats, securing data even if group hosts fail

Mod9 Technologies DBA Remeeting

May 2020 - February 2022

Backend Engineer

- Wrote and maintained Python REST API and asyncio SDK to provide dev-friendly interfaces for ASR
- Improved maintainability of existing code and significantly reduced cost of infrastructure

University of Chicago

January 2015 - August 2019

Graduate Researcher

- Built Monte Carlo frustrated Ising model simulator in C (6,000 LOC); designed Python/Bash pipeline for running HPC jobs and analyzing results; co-authored four papers including one in *Nature*

EDUCATION

University of Chicago

Ph.D., Physical Chemistry

December 2019

University of California, Merced

B.S., Chemical Sciences, with honors; Minor in Sociology

May 2014

SKILLS

Languages

Rust, Golang, TypeScript, Python, C, Bash, Solidity

Technologies

CLI tooling, Tokio, WebSocket, API design, React, REST, Wasm, Docker

Interpersonal

Academic & technical writing, Presentations, Prioritization, Project management