NICHOLAS B. LUDWIG

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SUMMARY

I am a scientist-turned-software engineer. I have written software ranging from molecular simulators, text-to-speech meeting archives, smart contracts, p2p operating systems, developer tooling, and an agent framework. I have architected multi-year projects. I have managed projects of as many as six engineers, have interfaced with other departments, and with other companies. I have presented and discussed my work in public venues. I am a team player, a fast learner with broad interests, and a daily user of LLMs.

EXPERIENCE

Hyperware FKA Kinode FKA Uqbar   February 2022 - Present
Software Developer to Lead Developer

· Built indexer for L1 blockchain and developer tooling for hybrid on- and off-chain p2p projects
· Architected and wrote MVP of Wasm virtual machine p2p OS (hyperdrive) inspired by Erlang and Midori, adapting poorly-documented, bleeding-edge libraries for our needs (circa 2023)
· Designed and wrote developer tooling for Hyperware, including templates, building, managing real and "fake" nodes (for development), testing, and deployment capabilities (kit)
· Expanded and maintained developer documentation, enabling independent developer onboarding
· Worked with business and legal to design token smart contracts within constraints of Swiss law while also delivering utility to consumers; oversaw development, including shepherding through audits
· Built a mobile coding IDE (kibitz, early 2025) and agent framework (spider, mid to late 2025)

Mod9 Technologies DBA Remeeting   May 2020 - February 2022
Backend Engineer

· Owned multiple products, both backend and frontend, including key Remeeting infrastructure
· Improved maintainability of existing code and significantly reduced cost of infrastructure

University of Chicago   January 2015 - August 2019
Graduate Researcher

· Developed statisical physics theory describing structure of complex liquids
· Built Monte Carlo simulation code in C; wrote Python and Bash data pipeline to analyze data
· Collaborated to write four publications, 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, TypeScript, Solidity, Golang, Python, C, Bash
Technologies	Agent framework CLIs, Git, Tokio, Unix, Wasm, Docker, Alloy, Foundry
Interpersonal	Academic & technical writing, Presentations, Prioritization, Project management