

WILLI WOLFF

Software Engineer · Technical Architect · Builder

Berlin, Germany · German & English

[Email](#) [LinkedIn](#) [GitHub](#)

PROFILE

Software engineer with 10+ years across enterprise (Deloitte), blockchain infrastructure (Bitcoin/Cardano), mobile, and IoT. Currently technical architect for a Byzantine-resistant pub/sub network at IOG. Founder DNA, at home in distributed systems and secure software. I like to own problems end-to-end: build a rough working version early, find the risks, then iterate. My best work happens in small teams on hard problems, and I gladly take on more than pure engineering when a project needs it.

EXPERIENCE

Technical Architect – Byzantine-Resistant PubSub Network

Feb 2026 – Present

Input Output Global (IOG) · Contract

Leading research and development of [Cardano PubSub](#), a Byzantine-resistant publish/subscribe network, formally verifying a research proposal and building a prototype.

- **Technical Leadership:** Lead a team of 4 engineers and researchers designing a Byzantine-resistant pub/sub overlay network
- **Formal Verification:** Formally verifying the [SecureCyclon](#) peer-sampling protocol stack and building a working prototype via spec-driven development ([spec-kit](#))
- **Protocol Security:** Reevaluating peer-sampling protocols that come with specific security properties

Technical Architect – Ouroboros Leios

Nov 2024 – Feb 2026

Input Output Global (IOG) · Contract

Led research and development of Ouroboros Leios, a high-throughput overlay protocol for Cardano blockchain, coordinating cross-functional team and driving toward mainnet implementation.

- **Technical Leadership & Team Coordination:** Direct team of 8 researchers and engineers across formal methods, protocol design, and prototype development
- **Defining Direction:** Translated open research into executable roadmap—authored [CIP-0164](#) (Cardano Improvement Proposal, industry RFC comparable to Bitcoin's BIPs or IETF standards)
- **Architecture & Strategy:** Designed simulation-driven approach validating protocol behavior before mainnet; created decision log tracking architectural choices and rationale
- **Cross-Org Coordination:** Bridge formal methods researchers, protocol engineers, and product teams—navigating complex technical trade-offs
- **Point of Contact:** Technical point of contact for the project: presented progress and findings in large internal reviews and publicly via monthly demo and review sessions for community and technical audiences (5k+ views per session, sustained over 1.5 years), the project [website](#), and regular reports
- **MEV Analysis:** Investigated [MEV](#) (Miner Extractable Value) impact on Leios via [mempool analysis and simulation](#)
- **Workshop Facilitation:** Organized week-long on-site workshop that reduced open research questions and aligned team on implementation strategy

Technical Architect – Lace Wallet

Nov 2022 – Nov 2024

Input Output Global (IOG) · Contract

Led technical architecture and backend infrastructure for Lace, a next-generation Cardano wallet, delivering significant performance improvements and new revenue-generating features.

- **Backend Re-Architecture:** Re-engineered from poll-based to event-driven architecture—45% latency reduction, 60% + infrastructure cost savings
- **Go-Live:** Took the re-architected backend to production for the public Lace 1.0 launch
- **Custom Chain Indexer:** Built indexer with bloom filters and credential-based indexing; 2,000+ tx/s ingest capacity, sub-second wallet sync
- **Industry Standards:** Authored [CIP proposal](#) for wallet indexing standards adopted in ecosystem
- **Product Leadership:** Led 7-person cross-functional team (3 FE, 2 BE, 1 QA, 1 PM) delivering MetaDex swap feature
- **Shared Tooling:** Built transaction construction libraries and event-driven patterns adopted across multiple product teams
- **Technical Innovation:** Developed background web worker sync approach later adopted by team as standard pattern

Solutions Architect

Nov 2021 – Nov 2022

Input Output Global (IOG) · Contract

Designed blockchain solutions and educated enterprise partners on Cardano's technical architecture.

- **Smart Contract Architecture:** Designed complete Plutus stack for collateralized debt position (CDP) platform
- **Technical Education:** Conducted workshops for 100+ Amazon engineers on eUTxO model, smart contracts, and dApp patterns
- **Knowledge Transfer:** Created training materials and hands-on exercises for blockchain education

Senior Software Engineer

Feb 2020 – Nov 2021

Mobility Data Lab GmbH, Berlin

Built IoT and data processing systems for connected vehicle platform.

- **Fleet Management:** Delivered complete OTA fleet-update pipeline for connected vehicle hardware
- **IoT Platform:** Built OTA update mechanism (Rust embedded, Vert.x backend) with rollback capabilities
- **Analytics:** Designed real-time data pipeline using ELK stack for Miles and Share Now car-sharing services
- **Go-Live:** Launched the pilot in production with 20+ vehicles

Software Engineer → Lead Engineer & Senior Software Engineer

Sep 2016 – Nov 2019

Deloitte, Austin TX → Ulm, Germany

Joined as Software Engineer in Austin, Texas, then relocated to Ulm, Germany as Senior Software Engineer, where I was promoted to lead a large-scale legacy system migration for a major German insurance company.

- **Migration Toolchain:** Redesigned Cobol-to-Java architecture for functional language (ISA); 3-stage pipeline: parser → AST → Java codegen, plus runtime emulation layer preserving original ISA/IDM behavior
- **Business Impact:** Saved client €6M annually in licensing costs
- **Go-Lives:** Delivered two production go-lives on separate migration projects: a major German insurer and a US state pension fund and social security agency
- **Team Growth:** Promoted to Lead within 24 months; scaled team from 3 to 20 engineers
- **Global Coordination:** Coordinated with offshore teams in India; established testing standards adopted organization-wide

Co-Founder & CTO

Feb 2015 – Sep 2016

CityXcape Inc., San Francisco

Technical co-founder of social discovery platform for exploring cities through community-driven recommendations.

- **Product Development:** Built native iOS app (Swift) and Django/Rails backend from concept to App Store launch

- **Fundraising:** Raised €150k in seed funding from angel investors
- **Team Leadership:** Led technical team of 2-3 contract developers; defined product vision and roadmap

PUBLISHED WORK

CIP-0164: Ouroboros Leios

2025

Cardano Improvement Proposal

Canonical architecture and design specification for Cardano's high-throughput overlay protocol—an open industry RFC comparable to Bitcoin's BIPs and IETF standards. Read it at [CIP-0164](#).

PROJECTS

Ouroboros Leios – Protocol Architecture & CIP

2024 – Present

Cardano Research

Co-authored protocol specification and architecture for Cardano's next-generation throughput layer.

- **CIP Authorship:** Principal author of [CIP-0164](#)—the canonical architecture design document guiding implementation teams
- **Protocol Specification:** Translated academic research into implementable specification with concrete parameters and trade-offs
- **Technical Documentation:** Created comprehensive [documentation site](#) covering protocol mechanics, simulation results, and design rationale

Dump it! – AI-Enhanced Note Taking

2023 – 2025

iOS, Android, Web

Cross-platform application with end-to-end encryption and sophisticated AI processing pipeline.

- **Full-Stack:** Native iOS (Swift/SwiftUI), Android (Kotlin/Compose), and React web app with feature parity
- **E2E Encryption:** Diffie-Hellman key exchange + AES-256-GCM + iOS Secure Enclave—zero backend access to user data
- **AI Pipeline:** Two-phase LLM processing (Claude for intent, pgvector for semantic search, Whisper for speech-to-text)
- **Architecture:** Event-sourced with SSE streaming; offline-first with persistent queue sync
- **Traction:** 5k+ notes, 200+ users, 70% weekly retention; shipped to App Store and Google Play

Pagebase – Freelance Development Agency

2024 – Present

Founder

Berlin-based agency building Supabase/PostgreSQL backends, web and mobile apps, and AI automation.

- **Stack:** Supabase, PostgreSQL, React/React Native, edge functions, CI/CD

Drip Dropz – NFT Marketplace

2022 – 2024

Cardano

Production NFT trading platform built from scratch.

- **Frontend:** React/TypeScript SPA with CIP-30 wallet integration and background web worker sync
- **Smart Contracts:** Plutus integration for bidding, selling, swapping, and order management
- **Launch:** 10k+ NFT listings; first revenue within 48 hours
- **DevOps:** TDD practices with Jest; CI/CD pipeline for reliable deployments

Cardano Infrastructure

Operated Cardano consensus nodes contributing to network decentralization.

- **Node Operations:** Produced 2,000+ mainnet blocks; maintained 99.9% uptime; 15M+ ADA delegation
- **Security:** Air-gapped cold key storage; secure key rotation procedures
- **Infrastructure:** Automated deployment with Docker, Ansible, Terraform; Prometheus/Grafana monitoring

TECHNOLOGIES

Languages

TypeScript (expert), Rust, Swift, Java/Kotlin, Python, Haskell/Plutus

Security

E2E encryption, Diffie-Hellman, AES-256, Secure Enclave/TEE, Key management

Web & Mobile

React, React Native, NestJS, Spring Boot, Vert.x, Swift/iOS, Kotlin/Android

Blockchain & DLT

Cardano (eUTxO), Plutus, CIP standards, Consensus protocols, Wallet standards

Infrastructure

Distributed systems, Event-driven, PostgreSQL, Redis, gRPC, Microservices

AI/ML

LLM integration (Claude, GPT-4), Vector search, Embeddings, Whisper

DevOps

Docker, Terraform, Ansible, GitHub Actions, CI/CD, AWS, Prometheus/Grafana

Leadership

Team building, Technical strategy, Architecture docs, Workshop facilitation

EDUCATION

M.A. International Business · Hult International Business School, San Francisco

2014 – 2015

B.Sc. Computer Science · DHBW Stuttgart, Germany

2011 – 2014