**NATHANAEL OH**

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**education**

**Johns Hopkins University** Baltimore, MD

*BS* May 2025

* Major in Computer Science
* Minor in Mathematics
* GPA: 3.70

**Professional Experience**

**Lead Engineer: NestorHealth** Fall 2023 – current

* Led the development of the primary web application used for clinical data management.
* Oversaw a team of 3 developers, managing their workflow and code reviews.
* Implemented numerous auxiliary FHIR related tools from scratch.
* Deployed services on AWS EC2 and RDS, maintaining full CI/CD pipelines.

**Fullstack JavaScript Intern: Personal Digital Spaces (PDS)** Summer 2024

* Developed an interactive developer portal for a cryptocurrency API.
* Collaborated with senior engineers to set up CI/CD workflows using GitHub Actions.

**PROJECTS**

[**Medfetch**](https://github.com/nestorhealth/packages) **– Web Application + Library** (C, Web Assembly, Typescript)

* Built and maintained a Next.js application to streamline server-side clinical data workflows.
* Created a thread-safe HTTP extension for SQLite in C and WebAssembly for client and server use.
* Integrated the SQLite extension seamlessly into the app’s logic (on both the Browser and Server!).
* Demoed to early clients and raised over $20k in interest funding.

[**SQLite On WASM**](https://github.com/bathan1/sqliteow) **– Library** (Web Assembly, Typescript)

* Designed wrapper utilities over ES6 modules to manage SQLite in Web Workers.
* Enabled seamless loading of custom SQLite extensions from the UI thread without blocking by extending the existing capabilities of the [SQLite Worker1 API](https://sqlite.org/wasm/doc/trunk/api-worker1.md).

[**Testnet Faucet App**](https://pds-dase-portal-v2.fly.dev/) **– Web Application (**Typescript, TailwindCSS)

* Added rate limiting logic to testnet faucet endpoints using Redis and Node.js.
* Migrated the legacy React app to Next.js with React 18 enhancements.
* Modernized CSS with Tailwind for a fully responsive experience.
* Integrate comprehensive unit and e2e testing into client’s development workflow.

[**IBFT Cat Pictures**](https://github.com/bathan1/ibft_catpics) **– Web Application + Bindings Library** (C++, Typescript)

* Simulated the Istanbul BFT algorithm using POSIX threads for concurrency.
* Developed Node.js C++ bindings for API-level access to the simulation.
* Integrated the backend with a React frontend to visualize consensus in real-time.