

Alex Lewtschuk

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alexlewtchuk.com

Profile

Software engineer with a passion for ideation, iteration, and continuous learning. Seeking impactful environments where curiosity is rewarded, boundaries are pushed, and where I can collaborate with people and teams dedicated to creating a smarter, better future.

Education

BS **Boise State University**, Computer Science | GPA 3.5 May 2025

- **Relevant Coursework:** Distributed Systems, Algorithms, Systems Programming, Operating Systems, Software Engineering, Security and Cryptology, Programming Languages
- **Certifications:** Google Data Analytics Professional Certificate

Technologies Interests

Languages: Go, Java, Python, C

Tools & Technologies: Git, GitHub Actions, *nix, Docker, LaTeX, WordPress, Agile/DevOps, Scrum, Unit Testing

Interests: Fitness, Biological / Cognitive Sciences, Pharmacology, Entrepreneurship, Travel

Experience

The Block, Research Analyst Intern Remote, NY Sep 2024 - Feb 2025

- Developed Python regression model analyzing market maker presence on crypto asset volatility.
- Authored a 27-page Year-in-Review report on the state of development in Web3, L1 / L2 blockchains, emerging developer and VC/Accelerator cohort trends, guiding internal product development.
- Developed automated Market Maker entity tracking and volatility analysis tools using the Garmin-Klass formula, Arkham and GMCI APIs, increasing research efficiency and reducing manual data analysis.

NSF Blockchain Researcher | Boise State University Boise, ID May 2023 - July 2023

- Architected **PharmaSys**, a HIPAA-compliant blockchain protocol for prescription tracking and introduced Proof of Sharding, achieving 90% individual node accuracy under 30% malicious node conditions.
- Designed multi-party node topology and sharding architecture for fault tolerance and scalability.
- Introduced a binomial probability model to validate quorum-level accuracy under adversarial conditions resulting in quorum level inaccuracy below 1%.
- Presented findings at ICICT 2024, London.

Wordpress Analyst & Security Auditor, Boise State University Boise, ID July 2022 - March 2024

- Audited university systems for PII exposure, strengthening security compliance across web assets by 90%.
- Created comprehensive audit reports for WordPress sites and enterprise university platforms.
- Ensured university compliance with local, and federal regulatory accessibility standards.

Publications & Projects

PharmaSys: Preventing Prescription Misuse with a HIPAA-Compliant Blockchain Protocol ICICT 2024

A Survey on Blockchain and Prescription Tracking: Challenges and Opportunities Pre-Submission

rmapp - macOS Application Removal Tool

[rmapp.sh](https://github.com/alewtchuk/rmapp.sh)

- Developed Go CLI tool for removing macOS application bundles and all their associated data.
- Used native APIs via CGO objective-C interop, and parallel file-system traversal.
- Tested the software for behavior and reliability and launched via HomeBrew tap.

Gash - POSIX-Compliant Shell

In Progress

- Developing a modular Go-based shell supporting command handling, execution, and REPL environment.
- Refactoring toward modular scalability, POSIX compliance, and extensibility.