

# Patrick Allmann

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My objectives are to build secure software, to solve interesting problems, and to get better at naming things.

Authorized to work in the US for any employer

## Work Experience

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### Backend Developer

Usko Privacy

August 2022 to January 2023

- Design, build, test, and maintain APIs and scripts for the app
- Designed and implemented bookkeeping system for Usko credits
- Designed and implemented credit monitoring and alerting
- Built integration tests for bookkeeping and monitoring systems
- Set up infrastructure for RBAC access controls and pg\_audit logs
- Investigated privacy-preserving ways to issue credits cryptographically

### Developer

- <https://github.com/ap-19927/post>
- Read, create and delete posts from a single thread of images and texts.
- Create and delete endpoints require authentication using passport.js.
- Scripts to set up nginx reverse proxy and letsencrypt certificates.

### Developer

- <https://github.com/ap-19927/lr>
- Peer-to-peer messaging system.
- Self-hosted STUN/TURN server set up.
- User can use same ID across multiple devices

### Developer

- <https://github.com/ap-19927/breakersq>
- Zero knowledge authentication.
- Using SNARKS and circom circuit.
- Authenticates user using an EC key pair.

## Education

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### Doctoral degree in Mathematics

University of California - Santa Cruz, CA

## **Bachelor's degree in Mathematics**

University of California - Los Angeles, CA

### Skills

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- Differential equations
- Writing skills
- Calculus
- Math
- APIs
- JavaScript
- Git
- REST
- Node.js
- PostgreSQL
- Docker
- TypeScript
- Bash
- Machine learning
- Data science
- Back-end development
- Jupyter
- Python

### Links

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<https://github.com/ap-19927/breakersq/>

<https://github.com/ap-19927/lr/>

<https://github.com/ap-19927/post/>

<https://roadpeoples.org>