# Kai Geffen

## Senior Software Engineer

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Versatile and determined software engineer with 6 years of client and industry experience. Engaged community member and builder in the Zero-Knowledge space. Brings years of experience in managing, facilitating, and communicating with clients and peers to achieve excellence in software solutions. Passionate math and problem-solver who holds the value and viability of the product in mind at all times.

## Professional Experience

**June 2023 - Dec 2023**

**Senior Software Engineer, Chief Technology Officer**
*IronMill*
- Lead the team in designing high-level scope for our project, creating diagrams and specifications, breaking it down into actionable tasks, and supporting best-practices are used throughout
- Attended industry-leading conferences and worked with key investors and partners to refine product-market fit
- Researched and advised on the technical aspects of Zero-Knowledge Proofs and where they could deliver the most value to our audience
- Executed end-to-end development in both Python and Typescript for both frontend and backend

**January 2023 - June 2023**

**Zero-Knowledge Exploration**
*Independent Exploration*
- Researched Zero-Knowledge Proofs and verifiable execution
- Attended ZK Libson, implemented Tip5 hash function in Miden assembly for a hackathon project
- Contributed to RISC Zero's version 0.14.0 release

**June 2020 - Dec 2022**

**Software Engineer**
*CelestialTCG.com*
- Designed, built, and host a web-app game using Typescript for client-side code, Python for server-side, and Postgres for user database
- Used Websockets for connecting to the server, OAuth for account management, Git for version-control, DigitalOcean for cloud hosting, and Canvas for frontend visuals
- Hired and managed a 4 person team working to develop the art, user-interface, and sound experience for the game

## Education

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| Summer 2017 | **Master's of Science in Computer Science (Incomplete)**<br>University of Massachusetts Amherst (Privacy and Security focus) |
| Fall 2016 | **Bachelor of Science in Computer Science**<br>University of Massachusetts Amherst (3.77 Major GPA) |
| Spring 2012 | **Associate of Science in Mechanical Engineering**<br>Greenfield Community College (3.93 Overall GPA) |

## Areas of Expertise

- Typescript
- Zero-Knowledge
- Ruby
- Figma
- Python
- OCaml
- Git
- Docker

## Other Roles and Achievements

**Math Tutor:** Hundreds of hours of experience working with more than 10 clients over 10 years. Many clients returned and demonstrated improved results and understanding.

**SomAlive Audio Software:** Collaborated and advised the client on successfully designing, executing, and testing a custom audio processing application over a year-long contract. Developed user experience, low-level audio processing, and device configuration in Python.

**Atalasoft Internship:** Extensively tested new features and updates to the company's image processing SDK. Wrote and facilitated the use of a C# program that automatically merged source code comments with the online documentation for the entire SDK.

**Fiksu Internship:** Utilized Ruby to create a tool that emulates user interaction with the company's mobile marketing product. Handled the division of a large Ruby Gem into smaller Gems for ease of use throughout the company.

**Research Paper Contribution:** Used Scala and propositional logic to fully describe all commands within the functional capacity of Puppet, a configuration manager. Analyzed which orders of execution caused it to fail.

**Board of Directors Experience:** Served on the Board of a non-profit, consensus-based organization which runs an annual 2-week event for over 600 participants. Learned to facilitate, delegate, and communicate effectively with other directors and the community.