

# KATIE JANZEN

Full-Stack Software Engineer

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## QUALIFICATIONS

- **Languages:** Nix, Rust, JavaScript / TypeScript, Python, Java
- **Frameworks:** React, Redux, MUI, Node.js, Express, ViteJS, Webpack
- **Databases:** PostgreSQL, MongoDB / Mongoose
- **Testing:** Playwright, JUnit, Jest, Puppeteer, Supertest
- **Web:** RESTful APIs, WebSockets

## CONTACT INFO

- **Phone:** +1 (806) 654-6933
  - **Email:** katiejanzen@347online.me
  - **Website:** <https://347online.me>
  - **LinkedIn:** <https://www.linkedin.com/in/katie-janzen/>
  - **GitHub:** <https://github.com/347Online>
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## SUMMARY

In one way or another, I've been developing software for just about as long as I can remember. I've built full-stack web applications, video games and game modifications, a command line interface for running a secret santa event, I can do it all. I'm a hard worker so if you need something done right, look no further: I'm your new developer.

## EXPERIENCE

**2011 - PRESENT**

### Front-End Developer, Take Command Health Insurance Agency Inc.

**2022 - 2024**

SaaS Company offering Web Platform for Employers to manage a Health Reimbursement Arrangement for their Employees

- Built authorization architecture enforced on both backend event handler and front-end user interface to gate functionality unavailable based on user's permissions
- Automated synchronization of defined backend permissions to frontend removing the need to redundantly modify defined permissions manually
- Developed custom Django quick action to repair damaged company records quickly and accurately
- Built backend rest API for Managing Company Records of Employees deployed to AWS Lambda
- Migrated product team's selected design system build pipeline away from Create React App (deprecated shortly thereafter) to ViteJS delivering superior performance and greatly improved developer experience and iteration time

## OPEN SOURCE

**2022 - PRESENT**

### Contributor, Nix Ecosystem

**2024 - Present**

Purely functional package manager, package repository, and software packaging toolset for fully declarative package management and configuration

- Shared system configuration spanning personal workstations, laptops, home servers, and portable Neovim setup
- Contributed package definition to nixpkgs for tsc.nvim Neovim Plugin by dmmulroy
- Contributed declarative module to NixVim for vim-be-good Neovim Plugin by ThePrimeagen

### Author, Umpteen

**2023 - Present**

Turing-complete Custom Programming Language preferring data immutability bootstrapped from Rust

- Implemented language featureset including conditional and looping control flow, lexically-scoped variables, and first-class functions
- Developed fully-functional Brainf\*ck interpreter in the newly implemented language as sample program

### Software Engineer, Jestee | OSLabs

**2022**

Chrome Extension to automatically generate end-to-end testing for web apps, backed by Open Source Software Accelerator, OSLabs

- Leveraged Google Chrome's feature-rich extensions API to automate the generation of Puppeteer scripts, as well as integrating Jest's testing functionality by injecting content scripts into active webpage which records user interactions, leading to expedited creation of end-to-end tests
- Developed content scripts that register listeners to the active document, which report events back to the extension by implementing Chrome's message passing API, enabling communication across differently privileged domains

- Further incorporated Jest and Puppeteer by building a comprehensive test suite which verifies that the extension is acting as intended, recording the interaction and generating the test correctly
  - Built a highly-functional and robust user interface for the extension using vanilla web technologies (HTML/CSS/JS)
  - Deployed to AWS using S3 for storage of static files and CloudFront to provide the secure socket layer in order to protect connection privacy
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## INDEPENDENT VIDEO GAMES

2011 - PRESENT

### Coldlight

2020 - 2022

Arcade Action Game where players destroy enemy spacecraft to claim high scores

- Orchestrated a system for a dynamic soundtrack with different tracks being played depending on the game state
- Integrated Juju Adams and Alynne Keith's Input library for seamless control across a wide variety of controller hardware
- Created a complex underlying weapons system shared across the player and enemy objects alike, enabling rapid prototyping of new weapons

### A.C.E. - A Chromatic Experience

2016

Puzzle Platformer where players use color to collect keys and traverse various gates to solve puzzles

- Designed level creation suite with intuitive user interface to enable creating new levels quickly, and allow players to create their own
- Implemented a robust control system for keyboard and controller, delivering players the freedom to change controls to fit their needs

### Trapfall

2014

One on One Competitive Online Multiplayer Experience with Host / Client architecture to play multiplayer matches over LAN / internet

### FutureShock

2011

Vertical-Scrolling Arcade Shooter integrated with Pointed Games web API portal for uploading player high scores to earn 'pointed points'

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## PUBLIC PRESENTATIONS

### Straight from the SRC: How a Compiler Works

2022

Talk presented as part of SingleSprout's Speaker Series

- Outlined how source code written by developers is converted into functional machine instructions
- Detailed the transformations code goes through in a compiler toolchain from tokens to abstract syntax tree to bytecode/native instructions