# Cyrus Burns

cyrusburns@gmail.com | +1 (413) 854-3541
[github/cyburns](github/cyburns) | [linkedin/cyburns](linkedin/cyburns)

## TECHNICAL SKILLS

- JavaScript | TypeScript | React | Node | Express | Redux | React Native | Expo Router | Next | Prisma | GraphQL | tRPC | HTML | CSS | MongoDB | AWS | Firebase | Git | MySQL | Jest | Unit Testing | Postgres | Docker | Socket.io | MUI | Tailwind.css | Webpack | Kubernetes | Vite | Three.js | PhotoShop | Figma | OOP | Framer-Motion | CI/CD | oAuth  - *All professional proficiency or above.*

## EXPERIENCE

**Software Engineer**                                                                                                                                 **2023-2024**
*ReacType*                                                                                                                                              *New York, NY*

- Accomplished multiple innovative product features such as a live video and chat collaboration room by leveraging React with TypeScript, incorporating best practices and design patterns to ensure safer and more efficient development.
- Achieved a 30x improvement in bundle time by strategically restructuring file architecture, continuously updating configuration files, optimizing dependencies, and successfully migrating ReacType's immense codebase from Webpack to Vite.
- Led the ongoing TypeScript conversion initiative, elevating conversion rates from 75% to over 95%.
- Used Socket.IO to architect and deploy live chat and collaboration room, fostering seamless real-time bidirectional communication between our server and front-end interfaces, allowing users to engage and create in a time of remote work.
- Implemented industry-leading authentication practices in a Node and Express backend, integrating OAuth, bcrypt for password hashing, and JWTs for token-based authentication, ensuring user data security and authentication reliability.
- Engineered a scalable and robust video meeting interface by integrating VideoSDK throughout Node.js and Express, optimizing middleware utilization and refining API handling to ensure seamless and uninterrupted conferencing experiences.
- Applied Jest to create and refactor unit tests, guaranteeing the functionality of new features without introducing bugs and increasing total test coverage to upwards of 80%.
- Employed MUI, Tailwind.css, Shadcd/ui, and Aceturnity within a Next.js structure to craft a sleek and modern landing page design.
- Refined state and data flow management within the application by implementing Redux and Redux Toolkit, enhancing control and optimizing data handling across all stages of development and the application lifecycle.

## OPEN SOURCE PRODUCTS

**SmartCar -** *AI-Powered Autonomous Virtual Vehicle*

- Developed an AI-powered virtual vehicle, utilizing vanilla JavaScript and embracing the principles of object-oriented programming
- Designed and implemented a neural network model for autonomous decision-making, integrating a sensor network for environmental awareness, allowing navigation through a virtual world and traffic.
- Utilized machine learning techniques to enable the virtual car to adapt and improve navigation strategies.
- Designed an advanced neural network of sensors enabling precise detection and response to environmental changes, including vehicles, traffic signals, and road conditions, enhancing safety and navigation accuracy.
- Used HTML5 Canvas and CSS to showcase a 2D world with roads, traffic, and cars to create an aesthetically pleasing simulation.
- Overcame complex algorithms like linear interpolation and other polygon intersection prediction solutions to increase the accuracy of the neural network and artificial intelligence.

**CodeShare -** *A web application that allows users to share code snippets and connect over tech interests.*

- Used MongoDB to store users' uploaded images and information input via DropZone and Formik; all verified by Yup's object schema.
- Utilised Node and Express to create a fully integrated custom authentication system leveraging technologies like bcrypt, jwt, and others to create a seamless and fully secure backend along with Morgan, Multer, and Helmet to handle file uploads efficiently.
- Designed a Redux store to take advantage of local-first paradigms and easily save users' posts, friends, likes, comments, and more.
- Integrated Material UI, to allow for light and dark modes along with a robust styling system.
- Used React with Typescriupt to reduce technical debt and create reusable efficient components.

## EDUCATION

**Indiana University,** *Luddy School of Informatics, Computing, and Engineering*                                                 *Bloomington, IN*
**NOLS,** *National Outdoor Leadership School, PCX*                                                                                          *Patagonia, Chile*

## PUBLICATIONS AND TALKS

- Published a comprehensive article detailing the latest updates to ReacType on [Medium](Medium).
- Gave an engaging Tech Talk sponsored by CaseBlink delving into the intricacies of caching in system design viewable on [LinkedIn](LinkedIn).

## INTERESTS

**Fitness -** I maintain a heavy weight lifting schedule of five to six days a week for over four years mainly to justify my love for food.
**Music -** I have cultivated my passion for music into a hobby of composing original songs that combine electronic music with 90's grunge.