

# Max Isom

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## EXPERIENCE

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### Member of the Technical Staff

Apr 2024 – Present

*Chroma*

*San Francisco, CA*

- On core engineering team building a distributed database from scratch in Rust ([open source](#))
- Improved document ingestion speed by 11x
- Decreased CI/test time by 2x and deploy time by 5x
- Ideated and implemented Chroma's code promotion process

### Founding Software Engineer

Jan 2022 – Apr 2024

*Seam*

*San Francisco, CA*

- Wrote the foundation of Seam's main product, Seam Connect
- Owned the job queue and scaled from 0 to xxM jobs per day
- Wrote core logic to successfully program xxK access codes on IoT devices per day across 15+ manufacturers, using unreliable and often reverse-engineered APIs
- Introduced tooling to monitor and debug database performance, resulting in a 50% load reduction
- Reverse engineered and wrote a Rust driver for a proprietary RS232 serial protocol
- Routed, ordered, and developed on a custom embedded MIPS computer with an onboard cellular radio
- Built internal tooling from scratch to enable great DX, including a custom HTTP API framework used by every HTTP-based service at Seam

### Freelance Software Developer

2021 – 2022

*Upwork & Others*

*Remote*

- Worked with a variety of clients primarily using React and TypeScript to glowing reviews (5/5 stars on Upwork):  
“... Max consumed a UX design through Sketch and turned it into a responsive web app in record time.”

### Research Assistant

Aug 2020 – Dec 2021

*Michigan Tech University*

*Houghton, MI*

- Developed web-based predictive text entry keyboard used in a 2021 study
- Simulated challenges faced by people using alternative input methods (e.g. eye tracking)
- Paper: [Accelerating Text Communication via Abbreviated Sentence Input](#) (Adhikary et al., ACL-IJCNLP 2021)

### Software Development Intern

Apr 2019 – Aug 2020

*JopeConnect*

*Remote*

## EDUCATION

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### Michigan Tech University

Houghton, MI

*Bachelor of Science in Computer Science, Minor in Mathematics*

*Aug 2018 – May 2021*

## WRITINGS & PROJECTS

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### Applying 5 million pixel updates per second with Rust & wgpu

2023

- Built an efficient viewer program for /r/place utilizing Rust and wgpu
- Focused on optimizing performance and offloading work to the GPU via compute shaders

### Michigan Tech Courses | *React, MobX, NestJS, Postgres, TypeScript*

2021

- Course scheduling & planning web app, laser-focused on UX
- Used by >90% of the student body, 3 years later

### XKCDY | *Swift, SwiftUI, TypeScript*

2020

- Native iOS viewer for xkcd, a popular webcomic, >5k installs

### TuyAPI | *JavaScript*

2017

- Reverse-engineered a local network serial protocol to unlock the control of thousands of different cheap IoT devices
- Many, many active community projects based on initial work, including widely used integrations for Home Assistant, Homebridge, and ioBroker

## TECHNICAL SKILLS

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TypeScript, JavaScript, Embedded development, Python, Rust, React, Next.js, Node.js, CI/CD, Linux, Git, Swift, Docker, SQL, Postgres, Reverse engineering, Keyword matching