

# TYLER PERKINS

Cuyahoga Falls, OH ◊ 330-289-9940 ◊ tyler@clortox.com  
tylerperkins.xyz ◊ linkedin/in/tyler-perkins-xyz ◊ github.com/Clortox

## WORK EXPERIENCE

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### **Etactics, Hudson, Ohio**

*May 2022 – Present*

*Software Developer / Technical Lead*

- Architected and led a team of 3 engineers in a ground-up rewrite of the company's GRC/eLearning platform as a Spring Boot modulith, delivering feature parity with a legacy system in 18 months and serving 30k daily active users across DoD contractors and major hospital systems
- Reduced per-instance memory footprint from 10GB to 2GB and accelerated deploy cadence from monthly to weekly while processing 100k+ daily events across 30+ regulatory compliance frameworks
- Drove department-wide architecture standards as the primary technical decision-maker, leading design reviews and mentoring junior developers through pair programming and code review
- Designed and implemented SAML2/OIDC identity federation and fine-grained authorization with record-level resolution, enabling secure multi-tenant access across legacy and modern systems
- Derived and implemented a closed-form solution to FAIR (Factor Analysis of Information Risk) quantification, replacing the standard Monte Carlo approach with deterministic computation suitable for real-time risk scoring
- Serve as primary technical contact for enterprise customer engineering teams, translating complex compliance and integration requirements into platform capabilities

### **Kent State University, Kent, Ohio**

*Jan 2020 – Aug 2020*

*Software Developer*

- Analyzed client needs and delivered an internal attendance application in 3 months using ASP.NET Core, still in production serving 2,000 concurrent users

## EDUCATION

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### **Georgia Institute of Technology, Atlanta, Georgia**

*Jan 2024 – Expected 2028*

Masters of Science : Computer Science

Specializing in Computing Systems

*Selected Coursework:* Distributed Systems, Computer Networking, Graduate Operating Systems, Software Analysis & Test

### **Kent State University, Kent, Ohio**

*Aug 2019 – May 2022*

Bachelor of Science : Computer Science

Overall GPA: 3.5

Specialized in Embedded Systems and Information Security

*Selected Coursework:* Operating Systems, Design and Analysis of Algorithms, Systems Programming

## TECHNICAL STRENGTHS

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### **Languages & Frameworks**

Java/Spring Boot, C, C++, Haskell, Python, Vue/Nuxt, x86 Assembly

### **Infrastructure**

Docker, Kubernetes, Terraform, AWS (ECS, EC2, RDS, Bedrock), MySQL, Gitlab CI/CD, Linux

### **Systems & Hardware**

Microcontrollers (ESP32, RP2040, ATmega328P), low-level I/O (SPI, I<sup>2</sup>C, UART), Software Defined Radio (RTL-SDR, HackRF)

## PROJECTS

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### **Multi-Paxos with Stable Leaders**

*Feb 2024 – Mar 2024*

Implemented consensus with stable leader election and log garbage collection; ensured exactly-once command execution, resilience to minority failures/partitions, and reduced latency via proposal batching.

### **Satellite Image Capture Equipment**

*Dec 2024*

Built a self-contained system (Raspberry Pi + HackRF/RTL-SDR) to receive/decode NOAA/METEOR-M2 signals in real time. Integrated custom dipole antenna and GNU Radio pipeline to demodulate QAM/APT and produce images end-to-end.

### **Deaf Transcription Application**

*Mar 2021*

Built a near real-time speech-to-text system for deaf family members using a self-hosted transcription model. Supports multi-party transcription via Telnyx phone integration. Runs on self-hosted hardware with high availability; used daily.

### **Biological Engineering Lab**

*2024 – Present*

Designed and built a home biology lab from scratch, including a Peltier-based incubator, a positive-pressure HEPA-filtered glove box, and a thermocycler (in progress). Currently working on expressing GFP via plasmid transformation in *E. coli* as a foundation for engineered bioplastic production.

### **Homelab**

*Mar 2020*

Self-hosted infrastructure cluster on retired enterprise and commodity hardware. Runs a Kubernetes cluster with 70+ containers across two availability zones, including self-hosted S3-compatible storage and a serverless compute platform.