

# Ian Fox

🌐 whatthefox.dev

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## SKILLS

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- Programming Languages: Rust, Python, Golang
- Technologies: LLMs and Large Multimodal Models, Kubernetes, Linux

## EXPERIENCE

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### Omny Security

Oslo, NO

Security Researcher

Oct 2021 - Current

- Developed document parsing tools using OpenCV and GPT4-V and refined them in collaboration with users.
- Created demonstrations of simulated ICS environments and attacks against them.
- Wrote and delivered talks at DEFCON ICS Village, BSides Oslo, S4x2023.
- Automated CI/CD tooling and infrastructure.

### Splunk

Waterloo, CA

Cloud Security Engineer

Jul 2020 - Sept 2021

- Developed and maintained automation for various security processes such as vulnerability scanning.
- Worked with stakeholders to plan and deliver enhancements to the vulnerability reporting process.
- Delivered webinar on using terraform to manage firewall rules with Signal Sciences

### Cognite AS.

Oslo, NO

Software Development Co-op

Sep 2019 - Dec 2019

- Implemented new authentication mechanism using Hashicorp's Vault.
- Fixed security vulnerabilities related to authorization.

### Splunk Inc.

San Jose, US

Software Engineering Co-op

Jan 2019 - Apr 2019

- Designed and developed integrations between GitLab CI and static code analysis tools, streamlining developer workflow.
- Built systems to automate tool deployments for the Product Security team.
- Created and delivered training on CI best practices.

### Oath Inc.

Sunnyvale, US

Technical Intern

Jan 2018 - Aug 2018

- Designed, implemented, and open sourced the yFuzz fuzzing orchestration tool.
- Developed a slack bot with Flask for a security engagement initiative encouraging employees to lock their computers.
- Conducted physical penetration tests and reconnaissance for Oath's red team.

### Yahoo Inc.

Sunnyvale, US

Technical Intern

May 2017 - Aug 2017

- Added a new authentication mechanism for the Screwdriver CD tool with Ember.js and Hapi.js.
- Developed a plugin to queue Screwdriver jobs with Redis, enabling more complex pipeline structure.

### OpenText Corporation

Waterloo, CA

High School Intern

Feb 2015 - Jun 2015

- Created integration allowing OpenText Core files to be opened in Google Docs for online editing.

## EDUCATION

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### University of Waterloo

Waterloo, ON, Canada

Bachelor of Honours Computer Science

June 2020

## PROJECTS

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### Crabtrap

*Jun 2024*

- Proof of concept for syscall blocking similar to seccomp-bpf at the shared object level instead of process level.
- Runs a child process under ptrace and uses the proc filesystem to map stack traces for syscalls to shared objects, then allows or denies them based on policy.
- Blog post explaining the design at [whatthefox.dev/posts/crabtrap](https://whatthefox.dev/posts/crabtrap)

### Vault JWT Backend

*Oct 2019*

- JWT-signing plugin for Hashicorp's Vault tool, allowing JWTs to be signed without the private key ever leaving Vault.

### yFuzz

*Mar 2018*

- Tool to allow orchestration of parallel of fuzzing jobs with Docker and Kubernetes.
- Server and CLI written in Go, offering authentication through mutual TLS and RBAC through Yahoo's Athenz.