

Ian Fox

🌐 whatthefox.dev

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SKILLS

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

EXPERIENCE

Omny Security

Oslo, NO

Security Researcher

Oct 2021 - Aug 2024

- Created document parsing tools using OpenCV and GPT4-V.
- Created demonstrations of simulated ICS environments and attacks against them.
- Wrote and presented talks at DEFCON ICS Village, BSides Oslo, S4x2023.
- Developed and debugged 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 Intern

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 Intern

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

Junior Developer Intern

May 2016 - Aug 2016

- Developed features and fixed bugs in the OpenText Core desktop client

OpenText Corporation

Waterloo, CA

High School Intern

Jun 2014 - Aug 2014, Feb 2015 - Jun 2015

- Developed web applications in a small team setting.
- Created integration allowing OpenText Core files to be opened in Google Docs for online editing with OAuth.

EDUCATION

University of Waterloo

Bachelor of Honours Computer Science

Waterloo, ON, Canada

June 2020

PROJECTS

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

Vault JWT Backend

Oct 2019

- JWT-signing plugin for Hashicorp's Vault, 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.