

Taylor Gunnoe

Senior Engineer

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ABOUT

I am free software technologist that has worked in many professional computing fields for over 15 years. Inspired by the Unix Philosophy and old school computer hacker dreams, I'm driven to create perfect modular systems that are fully usable, reliable, and reproducible.

The first 5 years of my career I developed for the Web, making use of technologies such as html/css, javascript, php, and drupal with a focus on producing highly usable websites.

The next third of my professional career I focused on application interfaces and providing good user experiences. In that time I lead design teams that overhauled the interfaces of more widely used applications and learned much about UX.

The most recent part of my career I've worked more deeply with systems and programming, focusing on distributed systems, containers and clusters, cryptocurrency, security via bootstrapping and integrity via reproducibility.

My current workflow is the accumulation of years of experience within every field of systems and applications. I've adopted the nix ecosystem (<https://nixos.org>) as my prime tooling of choice to create perfect reproducible, declarative and reliable computing systems.

EMPLOYMENT RECORD

From February 2018 to Present.

Ciphertechnics LLC

Self employed

Bitcoin, Ethereum, systems programming,
nix ecosystem

From September 2013 to February 2018.

NASA Goddard Space Flight Center

Lead Developer, WorldView

<https://worldview.earthdata.nasa.gov>

From April 2012 to September 2013.

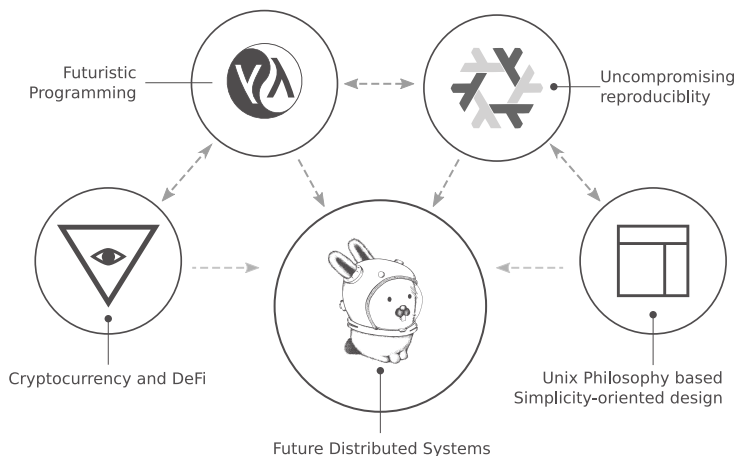
Battlefield Telecommunications Systems

Lead Designer & Developer, frontend

Praefectus, cellular software for Department of Defense

Top Secret clearance (inactive)

MINDMAP



YEARS OF FAMILIARITY

11

Years

UI/UX Design
Web Development
Systems Admin.

9

Years

Cryptocurrency
P2p technology
Sys. programming

7

Years

Packaging
Containers
DevOps

3

Years

NixOS
Nixpkgs
Nix-lang

LANGUAGES & LIBRARIES

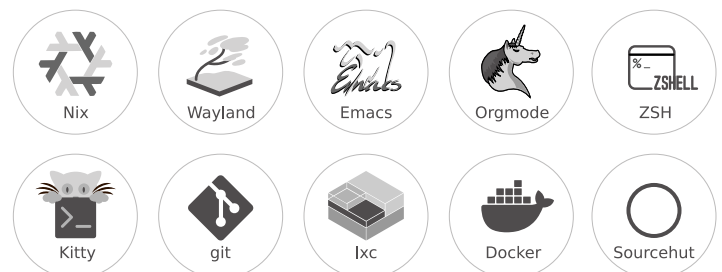
01 Languages/Ecosystems

Nix	●●●●●●
Rust	●●●●●●
Go	●●●●●●
C++	●●●●●●
Python	●●●●●●
Node	●●●●●●
Haskell	●●●●●●
Lisp	●●●●●●
Bitcoin	●●●●●●
Ethereum	●●●●●●

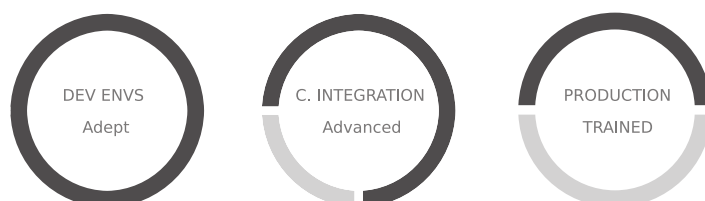
02 Nix specific

NixOS	●●●●●●
Flakes	●●●●●●
dream2nix	●●●●●●
devshell	●●●●●●
dockerTools	●●●●●●
nix-bundle	●●●●●●
deploy-rs	●●●●●●
alejandra	●●●●●●
extra-container	●●●●●●
agenix	●●●●●●

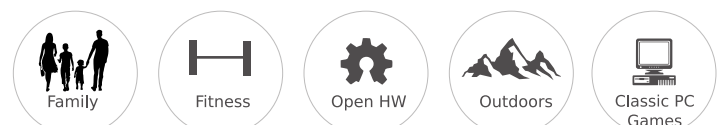
TOOLS & TECHNOLOGY



GITOPS PROFICIENCY



GENERAL INTERESTS



RECENT WORKS

**Using nix to build the Boba monorepo, a layer 2 scaling solution to Ethereum**

Boba builds off of another scaling solution on Ethereum, called Optimism. The monorepo is managed with yarn, a node package manager. It consists of many typescript packages, lots of solidity contracts, go-based ethereum node and a few other go helper packages. Everything is built with Dockerfiles using docker-compose. I parsed the whole monorepo with dream2nix, added a devshell, and used dockerTools to build the derivations into docker images that could be ran similarly with docker-compose.

Uses: *Flakes, dream2nix, devshell, dockerTools*

<https://github.com/bobanetwork/boba/tree/nix>

**DarkFi - Zero knowledge DeFi**

A project that strives to be an all encompassing anonymous crypto platform; A new network that bridges well-known cryptocurrencies and returns zeroknowledge-based tokens that (in the future) will provide more advanced DeFi-type contract schemes. Lives within a rust monorepo managed by cargo. I was to be responsible for providing a futuristic system that is built on top of it. I was also responsible for the development operations such as the matrix server, a sourcehut install with all of its components, email and various other services. I managed them using NixOS and the 100% nix deployment tool nixus. Later, I was responsible for bridging bitcoin into the system.

Uses: *Rust, cargo*

<https://github.com/darkrenaissance/darkfi> (pseudonym Janus)

PAST WORKS

**Defense Distributed, 2018-2020**

Various contracting with the entity Defense Distributed. I focused on bringing financial services to their platforms. I created modules for their prime product DefCAD that integrated payments using BigCommerce, provided implementations of services using the open source banking infrastructure Moov, and various other web development services.

Used: *Python, Django, node, React, Docker, Docker-compose*

<https://defdist.org>

**NASA WorldView, 2013-2018**

A javascript-based client for NASA's Global Imagery Browse Services (GIBS). I was responsible for all UI/UX designs, development, and deployment to production. A NASA product that grew to reach unique 100,000 visitors per month. As the lead developer, I lobbied to bring WorldView's development out of the clutches of locked down government facilities into the open source world.

Used: *javascript, react, node, python*

<https://github.com/nasa-gibs/worldview>

OTHER WORKS

**Darktop**

A creature of my own invention. Inspired by the unixporn subreddit, Darktop reimagines how a desktop system is presented. Your typical GUI application has dependencies it ships with (or expects the host system to have) packaged up to be shared with others on many different operating systems (and nix makes that reproducible). Darktop furthers that idea to the desktop. It's a combination of Nix, a Wayland compositor (for presentation), extra-container (for services) and various pre-setup nix-provided applications. The idea is to have one command to run anyone's desktop, pre-laid out with a specific workflow and design. Researched and created as part of The Dark Renaissance project.

Uses: *Flakes, Wayland, nixGL, extra-container*

<https://github.com/tgunnoe/darktop>

**NIXOS configurations**

My current personal configurations for all of my NixOS machines and pending nixpkgs contributions. Closely adheres to the DevOS/digga projects, with my own specific designs for sway, emacs and various other setups. Builds to my desktop, laptop, Raspberry Pis, and Pinephone.

Uses: *Flakes, digga, deploy-rs*

<https://github.com/tgunnoe/nixos>