

# Nathaniel Taylor

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## Languages - Tools - Areas of Expertise

- typescript (very good)
- python (very good)
- web crawling/scraping (very good)
- docker/podman (very good)
- chrome extension development (good)
- rhel linux administration (good)
- lua (good)
- sql queries (good)
- postgresql administration (good)
- go (okay)
- sql server administration (not clueless)
- C/C++ (not clueless)
- windows administration (not clueless)
- ARM embedded development (clueless but working on it)

## Work History

### WICX Radio

**System Administrator and Web Tech Guy** (volunteer) November 2024 - current

This is a volunteer position with 102.7 WICX Catholic radio in New Hampshire. It is mostly Windows and powershell based administration done remotely.

### Tech

- powershell
- windows
- linux

### Tasks

- prevent crashes
- don't cause crashes
- system updates and maintenance

## **MX Technologies**

**Software Engineer** (remote) March 2023 - June 2024

I wrote and maintained software that aggregates customer account data from different sources into a single interface and api. The crawling software is written in typescript. I also worked on a variety of smaller codebases, also in typescript, related to automated error reporting and observability.

### **Tech**

- node/typescript
- puppeteer
- chrome development and network tools
- html/css
- playwright
- aws s3 and ec2
- kibana
- bash

### **Tasks**

- improve and maintain automated error reporting and observability
- write and maintain crawlers in typescript
- triage problems with crawlers and bugs
- some weekends on call

## **Valhalla**

**Backend Software Engineer** (remote) August 2022 - September 2022

This was a three month contract to deliver a data backend for an enterprise customer facing ticket booking service with graphql endpoints. The server was written in Go using Gin and the gqlgen framework. I also designed the data model and wrote the postgresql and graphql schema definition files.

### **Tech**

- go
- graphql
- postgresql
- gqlgen
- gin

### **Tasks**

- deliver working data backend server
- create data model in consultation with client

## **Dark Owl**

**Software Engineer** (hybrid) October 2021 - July 2022

This was a position writing tor-network crawlers and data ingestion tools.

### **Tech**

- tor
- docker and docker-compose
- bash
- python
- aws s3 and ec2
- html/css
- puppeteer
- chrome development and network tools

### **Tasks**

- write crawlers for dark-net markets
- write data ingestion and analysis tools for analysts

## **Picnic**

**Software Engineer** (hybrid) January 2020 - October 2021

This was my first job writing code. When I was hired Picnic had not yet been acquired. It was acquired a year after I started working there. I started out writing search engine result crawlers and then moved on to writing personal identifying information (PII) aggregator crawlers. The service we offered was the monitoring and (if possible) automated removal of PII from the open internet on behalf of our clients. Picnic was a smaller company without dedicated devops staff, so in addition to learning crawling and the web stack I also learned devops using gcp, docker and terraform.

### **Tech**

- python
- terraform
- postgresql
- docker and docker-compose
- gcp
- puppeteer
- chrome development and network tools
- html/css

### **Tasks**

- write crawlers for PII aggregators and search engines
- deploy crawlers as services in gcp
- monitor deployed scrapes and fix bugs as they arise

### **Accomplishments**

- qform - a dsl for creating search engine query strings
- userper - a search engine crawler

## **Center for Non-Proliferation Studies**

**Open Source Intelligence Analyst** (on-site) July 2015 - July 2018

"Non-Proliferation" refers to stopping the spread of weapons of mass destruction, generally through diplomatic means, i.e. via treaties and their enforcement. The role of Open Source Intelligence (OSINT) in this process is to (a) provide intelligence, and (b) provide public corroboration of the meeting or violation of treaty objectives. To that end I analysed publicly available geospatial imagery, from Google Earth and from commercial satellite companies, in addition to a variety of government and archival sources. My specialization eventually became the ballistic missile programs of North Korea and Egypt in particular, in addition to the nuclear warhead testing program of North Korea. I also worked for six months abroad, first at a research reactor in Prague, and then at the Comprehensive Test Ban Treaty Organization (CTBTO), at the United Nations Headquarters in Vienna; the CTBTO operates the International Monitoring System (IMS), which is a global network of sensors that was designed to be able to detect any explosion anywhere in the world above a certain yield.

I worked at CNS for three years while I obtained my MA. I was an OSINT and geospatial imagery analyst. I also created 2D and 3D content for media and public engagement.

### **Tech**

- blender
- photoshop
- arcGIS

### **Tasks**

- geospatial imagery analysis
- open source intelligence (OSINT) analysis
- write and edit reports for government stakeholders
- media engagement
- infographic creation
- 3D content creation

## **Education**

### **Middlebury Institute of International Studies in Monterey**

#### **Master of Arts in Nonproliferation and Terrorism Studies**

Monterey, CA

July 2015 - May 2018

GPA: 3.7

### **Virginia Commonwealth University**

#### **Bachelor of Arts in Political Science**

Richmond, VA

August 2010 - May 2014

GPA: 3.8