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## **EXPERIENCE**

#### Synapse Softworks LLC

Raleigh, NC (Remote)

DevOps / Infrastructure / Software Engineer

Aug 2022 - Present

- o Created fault-tolerant & reliable services with an uptime rate of 99.99999%, with no recorded downtime since launch.
- o Managed & maintained servers which actively handle 150+ TB of traffic each month.
- o Designed & launched a new e-commerce website using Next.js, Cloudflare, AWS ECS and friends with 3+ million unique visitors/month
- o Introduced ELK stack (Elasticsearch, Logstash, Kibana) to enable complex aggregation of massive data-sets, enabling fraud analysts to proactively prevent fraudulent user activity
- Negotiated & worked with multiple SaaS vendors on contracts totaling over \$3m+ USD.
- o Deployed company-wide MDM program (via Apple Business Manager / Microsoft Intune) to manage a fleet of 10+ devices.
- o Actively mitigated large-scale DDoS attacks (peak 300m+ requests) via Cloudflare WAF rules, mitigating the impact on end-user experience
- O Deployed & managed (via Ansible) a cluster of bare-metal high-performance machines to help accelerate GitHub Actions performance, reducing build times by 60-70%.
- Technologies: AWS (Amazon Web Services), Ansible, Elasticsearch, Cloudflare, Terraform, Next.js, Rust, C++, TypeScript, HTML, GitHub Actions

#### Synapse Softworks LLC

Raleigh, NC (Remote)

DevOps Engineer / System Administrator

Jun 2022 - Aug 2022

- Spearheaded the company's migration from GitLab → GitHub Enterprise, including migration of 30+ CI pipelines to GitHub Actions.
- o Created & deployed reliable AWS infrastructure for C# services via Terraform / GitOps
- o Significantly reduced developer friction using GitHub Actions, saving over \$30k+ USD in labor, and reducing the barrier of entry to deploy code to production.
- o Technologies: AWS (Amazon Web Services), Cloudflare, Terraform, GitHub Actions

### **Symmetry Investments**

Charlotte, NC (Remote)

Jul 2021 - Jul 2022

Contract Software Engineer

- Wrote & maintained performance-sensitive code that is currently used to trade \$50 million+ USD via algorithmic trading applications.
- o Directly committed code to the organization's standard library, which is used by 100+ engineers on a daily basis.
- O Co-led an initiative to provide "private cloud" services for the entire organization, which involved setting up & maintaining a cluster of 20+ Linux servers.
- o Technologies: HashiCorp Nomad, HashiCorp Consul, HashiCorp Vault, Terraform, D Programming Language, GitHub Actions

#### int3 Systems, LLC

Raleigh, NC / Charlotte, NC

Nov 2020 - Present

Founder / Lead Consultant

- Kept business in active compliance with all local & federal regulations.
- O Provided software development consulting services for 6+ clients, netting a total of \$150k+ USD over the lifetime of the company.
- o Designed reusable IaC (Infrastructure as Code) components via Terraform for AWS ECS / CodeBuild
- Migrated legacy PHP applications to AWS via AWS ECS
- o Technologies: AWS (Amazon Web Services), Terraform, PHP, GitLab, D Programming Language, C, C++

### Premiere Digital Services Contract Software Engineer

Raleigh, NC (Remote)

Nov 2020 - Dec 2021

- $\circ$  Designed and architected a full software & hardware solution based on the NVIDIA Tegra X1 platform.
- o Implemented support for the D Programming Language to Yocto Linux.
- o Created a streaming platform using WebRTC to stream real-time video from low-power IoT devices.
- o Technologies: AWS (Amazon Web Services), WebRTC, Yocto Linux, Embedded Linux, D Programming Language, C

# LANGUAGES / TECHNOLOGIES

- o Languages: C, C++, D, Python, Rust, JavaScript, CSS, HTML, TypeScript, Java, Bash
- o Technologies: AWS (Amazon Web Services), Microsoft Azure, React, Next.js, Cloudflare

## **PROJECTS**

#### Linux on HP Prime Graphing Calculator

• hatf0/prinux

Mar 2023 - Present

- o Enabled Doom (on Linux) to run on a HP Prime G2 Graphing Calculator.
- Used Buildroot to create a customized Linux root filesystem.
- o Tinkered with the Linux kernel build system to enable kernel modules for the Vivante GPU.

### Mir Project **?** libmir

Jan 2021 - Jul 2022

- o Contributed heavily to the Mir project a collection of libraries designed for scientific computing.
- o Revamped CI/CD across the entire project, replacing Travis-CI with GitHub Actions.

## Intel Wireless Driver on macOS

• AppleIntelWifi/adapter

Jan 2020 - Jul 2020

o Prototype wireless driver built with Apple's IOKit framework. Uses the undocumented Apple80211/IO80211Family libraries.

# **EDUCATION**

University of North Carolina at Charlotte B.Sc. in Computer Science, GPA: 3.36

Charlotte, NC

 $Expected\ Graduation:\ Dec\ 2025$ 

## **MISC**

- o Certified as an AutoCAD Certified User
- Conversational in Japanese