

## EXPERIENCE

### **DATTO INC.**

#### *Software Engineer II - Engineering Productivity & BCDR Device/Cloud Team*

March 2020 – Present | Rochester, NY

- Built Azure infrastructure for automatic creation, orchestration of hypervisors. Expanded Datto ecosystem-specific functionality for future Azure offerings, to protect & validate customer Azure systems.
- Extended our VM deployment service with **Azure compute deployment & cleanup**, facilitating testing & development of Azure-focused products.
- Wrote a **highly available Kubernetes manifest** for test reporting & visualization software. Generated with Jsonnet & deployed with Helm. Enabled reliable and scalable test reporting for several projects.
- Extended our libvirt cluster manager solution with **fast, ZFS-backed VM snapshots**. Enabled **"replaying" actions in VM scenarios**, implementation of a speedy VM "hotpool", & VM rollback for reuse.

#### *Software Engineer I - Engineering Productivity*

May 2019 – March 2020 | Rochester, NY

- **Lead framework design & development** for testing Datto's backup agent software, through much cross-team collaboration. Empowered **explicit, automated end-to-end test scenarios** for these products.
- Built & deployed a long-term testing environment for Datto's backup appliance, complete w/ **monitoring tools & reporting**. Enables long-term understanding of device health & will assist in **deciphering complex production issues**.
- Included a **flexible provisioning system** in our automated VM deployment service, allowing for **effortless extension & customization**. Later enabled seamless integration of a legacy VM deployment service.

### **MACHINES NEVER SLEEP LLC | Chief Technical Officer**

Jan 2019 – Present | Rochester, NY

- Machines Never Sleep LLC is a cybersecurity startup that designs, implements, & hosts various research projects. Focused on **Internet-scale data collection & analysis**.

### **DATTO INC. | Software Engineering Intern - Quality Assurance Automation**

Jan – Aug 2018 | Rochester, NY

- Built a RESTful API to **automatically create example partner environments & configurations**.
- Assisted in building a framework to leverage this service. Facilitated testing Datto's flagship product with **rigorous, varied, real-world scenarios**.
- Extended agent software with automatic MSSQL installation and DB load configuration options, **increasing reliability** of Datto's service validation.

### **BAYER RADIOLOGY | System Software Verification & Validation Intern**

June – Aug 2017 | Indianola, PA

- Designed & implemented a tool to complement partially automated device test scenarios, parsing and reporting results. Transformed **~40 hours** of manual log reading into **~20 minutes** of automated testing.

## EDUCATION

### **ROCHESTER INSTITUTE OF TECHNOLOGY | B.S. in Computer Science**

Aug 2015 – May 2019 | Rochester, NY | 3.7/4.0 GPA | Dean's List (6 of 7 semesters)

Brickhack (RIT hackathon) participant & Sponsorship team member. Women in Computing Hackathon volunteer. RIT Linux Users Group Treasurer & frequent speaker.

## PROJECTS

### **SPEEDWAGON** | *Web-based RSS reader & aggregation server*

Backend is a versioned, RESTful API built with Rust + Rocket, using Postgres + Diesel for state management. This multi-user platform supports source filters & organization via tagging.

### **PI-DIGITS** | *Configurable Nth digit of Pi calculator*

Implementation of the BBP algorithm, built with Haskell & optparse-generic. A full-fledged example of using lazy evaluation as a "free" cache, complete with various formatting & output options.

### **FALLOUT-TERMINAL** | *Customizable, text-based word game*

Originally built with C & ncurses, with configurable options, words, and completion actions. Rewriting with Rust & pancurses, enabling greater customization with a cleaner backend model.

### **FOODTRAX** | *Food truck tracker*

A project to locate & display food trucks in real time. Frontend powered by Google's Map API. Wrote firmware for the Particle.io Electron + GPS tracker module, sending real-time updates to the backend.

### **CRUCIBLE** | *"Gamified" self-improvement app*

A cross platform social media & habit tracker, powered by Ionic. Handled Facebook profile integration in-browser as well as in the Android app.

## SKILLS

### **LANGUAGES**

**Confident in Python** from 2+ years of professional experience. 1 year of professional **Golang** experience. Frequent use of **Bash** & **Powershell** throughout.

**Learning Rust & Haskell** through assorted hobby projects, exercises, and giving tech talks.

**Familiar with C** from hobby projects & college courses. Used **JavaScript** during 2 hackathons/hobby projects. Some exposure to **Java** & **Assembly (MIPS, x86)**.

### **OPERATING SYSTEMS**

Used **Linux** (Debian & derivatives) for business, development, and personal use.

Utilized **ZFS** on Datto's backup storage appliances & on a libvirt cluster manager for VM snapshots.

Familiar with automation & orchestration of **Windows** environments.

### **ORCHESTRATION & DEPLOYMENT**

Wrote, modified, & deployed numerous **Helm** charts onto an intern **Kubernetes** instance.

Provisioned monitoring environments & libvirt nodes with **Ansible**.

Leveraged **Cloud-init** to parametrize ephemeral Windows & Linux VMs.

### **VIRTUALIZATION & CONTAINERS**

Built & deployed **Docker** images for several apps, using **Docker Compose** configurations to tie them together.

Leveraged the **Libvirt** API & configurations in a compute cluster, for on-demand VM creation & fast snapshots.

Familiar with several hypervisor & cloud APIs, including **vSphere**, **Openstack**, and **Microsoft Azure**.

### **FRAMEWORKS**

Experienced writing extensible **Pytest** plugins & best utilizing its fixture system.

Redesigned an app's usage of **Django** models & **Django REST Framework** views.

### **TOOLS**

Heavily use **Mypy** to verify applications & extend Python's type system.

Utilized **Jsonnet** to easily & safely template Helm charts.

Seasoned with **Git** & **Gitflow** for team collaboration. Used **Gitlab CI** for automatic linting, testing, building, & deploying of applications.