

# NICHOLAS HARRAS

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## EXPERIENCE

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### National Oceanic and Atmospheric Administration

Princeton, NJ

Computer Operator

June 2019 - present

- Utilizing **Slurm** and other command line tools to maintain various **Linux SUSE** HPC systems that scientists at NOAA's Geophysical Fluid Dynamics Lab rely on for their weather modeling
- Developing **Python** and **tcsh** scripts to automate various maintenance tasks
- Working with a Help Desk ticketing system to assist scientists, often with **SSH** and **X2Go** connections, **Slurm** errors, and compiler issues

### SEMGeeks

Belmar, NJ

Web Development Intern

September - December 2017

- Worked closely with web developers and designers to help create websites for small businesses
- Utilized **WordPress** and **HTML/CSS** in a professional setting
- Researched malicious **PHP** scripts that had stolen client information using steganography

## PROJECTS

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### Operators' Log Migration (in progress)

Long term project with the goal of moving 30 years of Operators' log from text files to a relational database, utilizing **Python**, **SQLite**, and **MySQL**

- Developed software to autonomously navigate a section of a filesystem.
- Utilized input sanitation, capable to parsing a wide variety of logging styles over the course of the last 30 years
- Ran a large amount of tests and proofs-of-concepts, stress-tested and quality controlled utilizing **SQLite** database files, as to not overburden our systems before migration is to take place.

### HPC Monitoring Dashboard

**Grafana** metrics dashboard for various statistics pertinent to monitoring GFDL/NOAA HPCs, utilizing an **InfluxDB** database and **Python**

- Developed **Python** wrappers of **Slurm** and system functions to constantly update an **InfluxDB** database
- Wrote software as part of a small team, prioritizing portability and readability
- Worked with other operators to find the most useful data representations for their needs

### Splunk Virtual Machine Lab (in progress)

**Oracle VM VirtualBox** network lab being built to learn the network requirements for setting up a SEIM, as well as the basics of practically using **Splunk**.

- Being made using the guides in Tony Robinson's (@da\_667) textbook *Building Virtual Machine Labs*.
- Configuring a **pfSense Gateway** for traffic routing between VMs
- Implementing an Intrusion Prevention System VM to generate events

## EDUCATION

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### Rutgers University

New Brunswick, NJ

B.S. in Computer Science

August 2018

- **Related Coursework:** Linear Optimization, Computer Security, Databases, Internet Technology, Systems Programming, Algorithms, Principles of Programming Languages, Intro to A.I., Computer Architecture, Discrete Structures I/II, Linear Algebra, Calculus I/II, Data Structures

## SKILLS

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- **Programming Languages:** Proficient in Python, C, and Java; Familiar with C++, JavaScript, and Lisp (Scheme)
- **Technology and Software:** Vim, Git, bash, tcsh, Nmap, WireShark, VirtualBox, InfluxDB, MySQL, SQLite, JSP, AWS (RDS and EC2), HTML/CSS  $\LaTeX$
- **Clearance:** Public Trust