Daniel J Barton

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Objective

Seeking to leverage concepts from the SOLID principle to operational observability and automation systems. Maintainability and extensibility are often sacrificed to yield quick results. I prioritize sustainable solutions.

Experience

Support Engineer – Metadata Frameworks November 2023 – Present

Susquehanna International Group *Bala Cynwyd, Pennsylvania*

- Provided Level 1 support for critical trading infrastructure. Triaging and handling the majority of alerts
- Lead major OS re-imaging for physical hosts for modernization and access to key new system features
- Spearheaded the migration to systemd from cron for many operational advantages provided by systemd
- Identified performance bottlenecks between application, kernel, host hardware, and network hardware
- Restructured networking structure to add physical site redundancy for applications which did not previously exist, while minimizing connectivity complexity
- Automated several manual processes which cut down operational overhead from hours of daily work to minutes
- Implemented multiple Python-based monitoring additions. One gap was alerting on silently failing ELK watchers
- Enhanced the home-brewed infrastructure management mechanism, improving operations and visibility

Reliability Engineer – Observability May 2022 — November 2023

Bestbuy *Richfield, Minnesota*

- Maintained and enhanced observability tooling: Splunk, Elastic, Grafana, Graphite
- Frequently worked with Terraform, Chef, and Ansible to provision and configure AWS infrastructure
- Automated snapshot cleanup for Grafana, alongside building an improved restoration mechanism for dashboards
- Lead the migration task for authentication from crowd auth over to AD through SAML for Splunk
- Implemented automation for Splunk index creation. This enabled app teams to not be reliant on the regular 2-week deployment cycle where they would need to engage a manual ticketing mechanism.
- Simplified the process for log index restoration from S3 to Splunk, reducing a manual task taking weeks to hours.
- Re-architect log file backup mechanism (for resiliency) for tens of thousands of dollars in yearly cost savings

Quality Intern at Boston Scientific June 2021 — September 2021

Boston Scientific *Arden Hills, Minnesota*

- Self-led the design and implementation to streamline diagnostics of Latitude Communicators. Circa 80% of communicators returned were targetable for this product. This saved around 8 hours a week for technicians
- Utilized Tera-Term macro programming language to implement automated testing
- Finished development a month ahead of schedule, spending the remaining time to manually validate and create thorough documentation regarding the new testing product

Projects

[Python] Optical Digit Classifier Neural Network | *Numpy* November 2021

- Built a multi layer perceptron to recognize pre-processed images of handwritten numbers. Determined ideal number of hidden units within the hidden layer for optimal recognition accuracy and run-time. Test accuracy was 93%. 2D and 3D visualization using the hidden units with the largest variance to show the distribution of classifications.

[C++] Voting System Simluation | *doxygen* April 2022

- School team project that acted as a demonstration of waterfall and agile scrum work methodologies
- Created central waterfall documents, SRS and SDD
- Simulated user stories with arbitrary feature requests to be implemented within 72 hours on an existing codebase

Education

University of Minnesota Minneapolis, Minnesota

Bachelor of Computer Science *May 2022*

Technical Skills

Languages: Python, C, C++, Rust, MySQL, Node.js, JavaScript, HTML, CSS
Technologies: AWS, Openshift, Terraform, Chef, Ansible
Certifications: Backend Development and API – FreeCodeCamp