

Matthew J. Bruzek
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Accomplished software engineer passionate about automation, open source, operations, administration of containers, virtual and physical computers. Experienced with public clouds including Amazon, Digital Ocean, Google Compute Platform, and Microsoft Azure. A track record of learning new technologies, quickly applying problem solving skills that contribute to the team and accelerate projects.

Languages: Ansible, Python, Java, C/C++, Bash (shell scripting)

Clouds: Amazon (AWS), Digital Ocean (DO), Google (GCP), Microsoft Azure, and OpenStack

Containers: Docker, Kubernetes, LXD/LXC, and OpenShift

Platforms: Linux, Microsoft and Apple operating systems

Processes: Agile, DevOps, automation, and software design

EXPERIENCE

Rothe Development Incorporated 2022 to Present

System Administrator – JOIST Contract with NASA

- Updating software, fixing problems and optimizing systems for the Joint Operations and Integrated Systems Technology (JOIST) contract with the National Aeronautics and Space Administration (NASA).
- Researched and implemented multi-factor authentication for secure shell (SSH) on all Linux systems.

Leidos 2018 to 2022

Network Administration and Operations – IMOC II contract with NASA

- Software design and development for the Station Support Computers (SSC) system onboard the International Space Station (ISS) for National Aeronautics and Space Administration (NASA).
- Automated the development team's manual build process using Jenkins open source software.
- Updates and bug fixes to the Linux infrastructure (DHCP, DNS, NTP) for the remote environment.
- Implemented OpenVPN enabling authorized groups to connect and access remote lab computers.

Red Hat 2017 to 2018

Senior Software Engineer – Scale & Performance

- Designed and implemented Ansible automation to install and configure large scale OpenShift (a Kubernetes product) clusters to test scale and benchmark performance features.
- Resolved problems with OpenShift Enterprise builds and components before they were released to Red Hat customers.

Canonical Ltd. (the company behind Ubuntu Linux) 2014 to 2017

Software Engineer – Juju Ecosystem

- Converting operations best practices to code that installs, configures, and connects software for multiple Open Source projects including Kubernetes.
- Created training sessions to educate community and business partners on how to write DevOps code for their software projects.

International Business Machines (IBM) 1997 to 2013

Staff Software Engineer – SmartCloud Entry

- Led multiple teams and applied technical expertise to solve blocking issues to meet release criteria for a cloud management product.
- Implemented new features and improved performance for a Java software product that enables companies to comply with regulations in the healthcare industry.
- Designed, developed and maintained the main external search, a J2EE application featured on IBM's customer facing web sites.

EDUCATION

University of Minnesota, Duluth, MN

Bachelor of Science in Computer Science 3.58/4.0 graduated with **cum laude** honors.

SANS Institute, SEC401: Security Essentials

Building the security skills to protect an organization's critical information assets and systems.

ACCOMPLISHMENTS

- Board member of EMERGE, a NASA Employee Resource Group (ERG) from 2021 to 2022.
- Red Hat Certified System Administrator (RHCSA) valid from 2018 to 2021 - License 170-275-812
- Co-inventor of United States Patent 7,472,115, "Contextual flyout for search results"
- Created and delivered a Linux introduction class for the Rochester Community Education Adult enrichment department and the Rochester Public Library.
- Leader of the Rochester Python Meetup group assembled monthly to discuss programming techniques.
- Board member of the Rochester Active Sports Club (RASC) bicycle steering committee.
- Member of the Rochester makerspace creating many electronics projects with Arduino and Raspberry Pis.

CONFERENCE PRESENTATIONS

- "The Evolution of the Kubernetes Model" - Config Management Camp in Ghent, Belgium 2017
How the operations of Kubernetes clusters has changed over time.
- "Rolling Out and Managing Kubernetes" - Config Management Camp in Ghent, Belgium 2016
Deploy and manage production grade Kubernetes clusters on public clouds.
- "Juju Charm Testing and Debugging" - Config Management Camp in Ghent, Belgium 2016
Testing, troubleshooting and debugging Juju operations code.
- "Use Nagios to Monitor Your Public Cloud" - Nagios World Conference in St. Paul Minnesota 2015
Easy ways to automatically monitor deployed applications on different public clouds.

PROJECTS

Operations

- Replaced the team's proprietary file server with a new Linux system running a RAID using open source SAMBA file sharing software, with scheduled back ups to a 12TB disk array. Operated the server remotely fixing problems regarding access with firewalls and space issues with automatic cleanup of selected shares.
- Automated performance tests on a large scale (> 3000 containers) OpenShift (Kubernetes) cluster to validate performance features of the enterprise product.
- Created the Canonical Distribution of Kubernetes the officially supported operations to deploy, install and configure a Kubernetes cluster on Ubuntu Linux.
- Developed a Continuous Integration (CI) system in Jenkins to build and test the operations of the cluster and automated publishing the daily reports to the Kubernetes test grid report website.

Software Engineering

- Developed automation to install and configure the complex OpenStack distributed systems, enabling IBM SmartCloud to ship a reproducible virtual appliance images.
- Led a team of engineers and testers, all from different products and teams to complete the release requirements for SmartCloud version 2.3.
- Supported search software with four releases of the iSeries and eServer products, each release was translated into 33 languages and contained over 30,000 documents per language.
- Created proof of concept prototypes and incorporated the Lucene open source search engine to the Information Center search Java application, improving reliability and accuracy of the search indexes.
- Created a Java PDF parser from scratch to enable the IBM Information Center to index and search PDF files.