

# Matthew J. Bruzek

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## SUMMARY

Experienced Software Engineer with a history of teamwork and developing high quality software. Passionate about automation, open source software, operations and administration of Linux systems, both containers and virtual computers. Hands on experience with several different public clouds. Proven problem solving skills with the ability to learn new technologies quickly that contribute to the team and accelerate projects.

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## COMPUTER SKILLS

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

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

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

**Platforms:** Linux, Microsoft, and Apple operating systems

**Processes:** Agile, Automation, Build, DevOps, and Software Design

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## EXPERIENCE

Leidos 2018 to Present

**Server Load Integrator** – IMOC II contract

- Software design and development for the Gateway Support Server (GSS) on the Exploration Software for Crew Operations (ESCO) team.
- Automated source Continuous Deployment (CD) using a custom GitLab runner using LXC containers.

**Network Administration and Operations** – IMOC II contract

- 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.
- Replaced a file server with an open source (SAMBA) solution using redundancy and regular backups.
- 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 solution 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 to meet release criteria.

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.
  - Designed, developed and maintained the external search featured on IBM's iSeries web sites.
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## EDUCATION

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### **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.

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## ACCOMPLISHMENTS

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- Awarded the 2019 IMOC II Excellence award for automating the SSC build process with Jenkins
- 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.

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## CONFERENCE PRESENTATIONS

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- "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.

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## PROJECTS

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### **Operations and Administration**

- Replaced the team's proprietary file server with a new Linux system using open source SAMBA file sharing software, backed up to a 12TB disk array. Operated the server remotely fixing problems regarding access with firewalls and storage 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**

- Collaborated with customers and vendors company (ILOG) to resolve technical issues with the product resulting in a new sub-component of the IBM System Director management platform.
- 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 PDF parser from scratch to enable the IBM Information Center to index and search PDF files.