



Spencer C. Imbleau *He/Him*

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Profile

I am a software and systems computing expert specializing in engineering for enterprise clients. My professional experience includes managing onsite data centers with Linux infrastructure, administering Kubernetes and Cloud solutions, and developing production software in modern languages. My experience accentuates a deep knowledge of Linux and Unix architecture. I am dedicated to learning and service, working on many open source initiatives and publishing research often, with a high moral standard and positive outlook.

Education

Master of Science, Computer Science

Appalachian State University, ABET Accredited

Aug 2020 – May 2022

Boone, NC, USA

- Concentration in Systems
- Summa Cum Laude Honors

Bachelor of Science, Computer Science

Western Carolina University, ABET Accredited

Aug 2015 – May 2019

Cullowhee, NC, USA

- Minor in Mathematics
 - National Honor Laureate
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Career

Software Engineer II

NASA, National Aeronautics and Space Administration

Dec 2021 – Present

Kennedy Space Center, FL, USA

- Deployment and installation of a production, bare-metal RKE2 Kubernetes cluster
- Kubernetes administration and deployment for Information Architecture
- Software and automation engineering for data processing and build systems
- Participation in design reviews and analysis tasks for the Space Launch System
- Certified 243-3 master console operator for the Space Launch System

Lead Research, Teaching Assistant

Appalachian State University, Computer Science Department

Aug 2020 – Dec 2021

Boone, NC, USA

- Instructed weekly lectures and laboratory exercises
- Volunteered office hours with an open-door policy for my students
- Data collection and visualization research in graphic systems and image modelling
- Rust framework developer and library owner for GPU metric sampling tools

Systems Engineer I

Ingles-Markets, Inc.

May 2019 – Jun 2020

Black Mountain, NC, USA

- Received highest possible annual performance review rating, 2019
- Developed accessible technologies such as training kiosks, time clocks, and VNC portals for over 20,000 employees and 200 retail stores
- Linux system administrator for hundreds of production Red Hat Enterprise Linux servers
- Triage for Unix and Linux system issues as the highest tier of support
- Led an initiative of better practice in automation, automating hundreds of routine tasks with safety and reliability
- Responsible for routine onsite data center backups and storage engineering

Competencies

🔗 **Languages:** Rust, Python, C/C++, Java, JavaScript, PHP, Shell
🗣️ **Human Languages:** English ★★★★★, Danish ★☆☆☆☆
🐧 **Platforms:** 🍃 Ubuntu, 🐧 RHEL, 🐧 Fedora, 🍃 Raspbian, 🍷 Windows, 🍏 MacOS
🚢 **System Engineering:** Kubernetes, Docker, AWX, Tower/RHAAP, RHEV-M, VMWare
📁 **Content Management:** Git, GitHub, GitLab, DockerHub, ArtifactHub
🐙 **CI/CD:** GitHub Actions, GitLab CI, Travis, Jenkins, Artifactory
🔑 **GitOps:** Ansible, Terraform, Flux, Helm, Kustomize, SOPS
🗄️ **Databases:** Redis, PostgreSQL

Research, Publications

Understanding Hardware-Accelerated 2D Vector Graphics Jun 2021 – Apr 2022
with R. Mitchell Parry, Ph.D. Boone, NC, USA

- Publicly defended at the Cratis D. Williams School of Graduate Studies, April 4th, 2022
- A data collection and visualization framework for 2D vector graphics, in Rust
- FFI Integration with NVIDIA® Tools Extension SDK (NVTX) for GPU metric sampling
- Analysis of competing algorithms and approaches for compute-centric vector rendering

Creating A Game Engine From Scratch Aug 2018 – May 2019
with William C. Krehling, Ph.D. Cullowhee, NC, USA

- A full implementation of a 2.5D perspective game engine with zero libraries or dependencies, written in Java
- Calculus-based physics implemented from scratch using the separating axis theorem
- Networking reliability and security built on UDP at the application level of the OSI model
- Software rendered with support for affine transformations and native shaders
- Additional module handling of input, sound, and lighting

Kubernetes at Home Apr 2022 – Present

- A mono repository for my home infrastructure and K3S kubernetes cluster
- Managed with Ansible, Terraform, Flux, Renovate, GitHub Actions
- Adherence to Infrastructure as Code (IaC) and GitOps practices

My Research Blog Dec 2021 – Present

- An open source initiative to provide free and insightful information
- A landing for complex research, focusing mainly on Rust, Cloud, and GitOps

Certifications

CKA, Certified Kubernetes Administrator In Progress
243-3 Master Console Operator for NASA Space Launch System Jan 2022