

# Spencer C. Imbleau

He/Him

@ **BLUE ORIGIN** 

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## 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

## Career

### Software Engineer II

*Blue Origin*

Nov 2022 – Present

Cape Canaveral, FL, USA

- Current employment under NDA

### Software Engineer II

*NASA, National Aeronautics and Space Administration*

Sep 2021 – Nov 2022

Kennedy Space Center, FL, USA

- Software engineering of data processing and provision systems of Artemis I, Artemis II
- Deployment and installation of a production, bare-metal RKE2 Kubernetes cluster
- Kubernetes administration and deployment for DevOps and Information Architecture
- Design reviews and analysis tasks for the Space Launch System
- Certified master console operator for the Space Launch System

### Lead Research, Teaching Assistant

*Appalachian State University, Computer Science Department*

Aug 2020 – Aug 2021

Boone, NC, USA

- Performed granted research in vector image modelling and data collection in Rust
- Fully engineered GPU metric sampling tools targeting NVIDIA hardware
- Instructed undergraduate computer science lectures and laboratory exercises

### 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
- Led an initiative of better practice in automation, automating hundreds of routine tasks with safety and reliability
- Unix systems administrator for over 200 production RHEL servers
- Triage for Unix and Linux systems as the highest tier of support
- Routine onsite data center backups and storage engineering

## Competencies

🔗 **Primary Languages:** Rust, Python, TypeScript, Java

🗣 **Human Languages:** English ★★★★★, Danish ★☆☆☆☆

📦 **Content Management:** Git, GitHub, GitLab, Artifactory, DockerHub, AWS

🔧 **Systems Engineering:** Kubernetes, Docker, Ansible, Terraform, Flux, Kustomize

🔄 **CI/CD:** GitHub Actions, GitLab CI

🗄 **Databases:** Redis, PostgreSQL, DynamoDB

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## 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

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## Certifications

CKA, Certified Kubernetes Administrator

Dec 2022

243-3 Master Console Operator for NASA Space Launch System

Jan 2022