

# Spencer C. Imbleau

He/Him

@ BLUE ORIGIN 

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## Education

### Master of Science, Computer Science

 *Appalachian State University*

- ABET Accredited University
- Concentration in Systems

Aug 2020 – May 2022

Boone, NC, USA

### Bachelor of Science, Computer Science

 *Western Carolina University*

- ABET Accredited University
- Minor in Mathematics
- National Honor Laureate

Aug 2015 – May 2019

Cullowhee, NC, USA

## Career

### Software Engineer II

 *Blue Origin*  Confidential Employment

- Research software and systems engineer for Blue Ring
- Delivered software to audit rocket engines to fulfill BE-4 engine delivery
- Received highest possible annual performance review rating, 2023

Nov 2022 – Present

Cape Canaveral, FL, USA

### Software Engineer II


 *NASA, National Aeronautics and Space Administration*

- Software engineering of data processing and provisioning systems for Artemis I & 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

Sep 2021 – Nov 2022

Kennedy Space Center, FL, USA

### Lead Research, Teaching Assistant

 *Appalachian State University, Computer Science Department*

- 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

Aug 2020 – Aug 2021

Boone, NC, USA

### Systems Engineer I

 *Ingles-Markets, Inc.*

- 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

May 2019 – Jun 2020







Black Mountain, NC, USA




## Competencies





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

 **Primary Languages:**  Rust,  Python,  Java,  Various Web Languages

 **Cloud:**  AWS,  Certified Kubernetes Administrator,  Docker

 **DevOps:**  GitHub Actions,  GitLab CI,  Ansible,  Terraform,  Artifactory

 **UI/UX:**  Figma,  React

 **Distributed Data:**  GraphQL,  SQL,  Redis

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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