

# Daniel Card

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## Experience

**The Boeing Company – Phantom Works**  
Software Engineer II

**January 2023 – Present**  
Berkeley, MO

- Using Podman, facilitated multi-platform build images, enhancing cross-platform compatibility, and implemented multi-staging build techniques, reducing container file-sizes by 60%, resulting in increased portability
- Rapidly prototyped a mixed cpu processor architecture k3s cluster using QEMU and automated hardware provisioning with Ansible for an air-gapped on-premises server for streamlined testing
- Leveraged RoCE technology paired with Rook and Ceph to scale data storage infrastructure to support 100Gbps, while realizing an exceptional 400% reduction in latency and a remarkable 10x increase in storage IOPS
- Developed a Grafana monitoring dashboard with a Prometheus back-end to effectively visualize and analyze system metrics, with a focus on packaging persistent data into releases for streamlined deployment and integration
- Optimized RHEL 7.7/7.9 compatibility C++/Clang testing by parallelizing Docker image builds, resulting in a noteworthy 6x reduction in testing time

**Northrop Grumman Corporation**  
Software Engineer II

**June 2021 – January 2023**  
Roy, UT

- Successfully transitioned a cesium map viewer to leaflet map viewer through the refactoring of cesium map entities using TypeScript, resulting in a 5-10x improvement in web page loading speed
- Integrated physical alarm for immediate active user alerts, with a fail-safe: prolonged inactivity prompts notifications to secondary/tertiary users, preventing system lockout
- Enabling streamlined missile silo oversight, implemented an Area of Responsibility (AOR) feature to dynamically highlight and display active silos within designated wings based on user role configuration

## Education

**Georgia Institute of Technology – Atlanta, GA**

M.S. in Computer Science – Computing Systems

**August 2022 – Present**

**Accolades:** Machine Learning for Trading – Teaching Assistant (TA)

**University of Michigan – Ann Arbor, MI**

M.S.E. in Aerospace Engineering – Computation

**August 2020 – May 2021**

**Accolades:** Aero Lab I – Graduate Student Instructor (GSI)

B.S.E. in Aerospace Engineering

**September 2018 – August 2020**

**Accolades:** Summa Cum Laude, 1<sup>st</sup> Gen STEM, 1<sup>st</sup> Gen Engineer

## Personal Projects

**Homelab Server – Github Repository**

**May 2023 – Present**

- Employed Proxmox VE automated with Ansible IaC to optimize and manage virtual machines efficiently, ensuring seamless virtualization management, VM provisioning, Kubernetes clustering and deployments
- Streamlined container deployment with docker-compose simplifying configuration of containers while tunneling these services with Cloudflare Zero Trust to expose to WAN without exposing local ports
- Virtualized router and Firewall with pfSense through IOMMU PCI network interface card (NIC) passthrough
- Using apache guacamole, a clientless remote desktop gateway, enabled remote VNC control of headless Raspberry Pi kubernetes cluster and VM's for increased flexibility

## Skills

**Programming Languages:** Python, C++, C, MATLAB, JavaScript, TypeScript, R

**Frameworks/Libraries:** React.js, Django, JUnit, MaterialUI, Tailwind CSS

**Development Tools:** Docker, Kubernetes, Ansible, Rook, Ceph, SQL, NoSQL, Flask, Git, AWS EC2, AWS S3, Jira, Confluence