Charlie Houghton

Software Engineering ⋄ IT Operations ⋄ DevSecOps

EDUCATION

University of Virginia August 2017 - May 2021
BS Computer Science & Economics 2^{nd} Major GPA: 3.72

SKILLS

Programming	Java, Spring, Python, Bash, Git, TypeScript, Node.js, C++
IT Operations	Kubernetes, Helm, Terraform, Docker, AWS, GitLab CI, Ansible, Flux
	CompTIA Security+, CompTIA A+

WORK EXPERIENCE

The Boeing Company July 2021 - Present
Software Engineer II *Fairfax, VA*

- Administered **AWS EKS-based Kubernetes clusters** serving NIST 800-171-compliant, highly-available (HA) developer tooling for 1500+ Boeing software team members. Continuously deployed new features and security patches via custom **Helm charts**, **Bash and Python scripts**, and **GitLab CI**.
- Designed and developed a full-stack application (Angular, Java Spring, Python) that automates code and backlog migrations, reducing the process from several days to a fully automated workflow. Leveraged **cloud-based technologies** (AWS ECS, ECR, Lambda) to enable automatic compute scaling.
- Developed **custom applications and automation** for metrics gathering, compliance monitoring, and visualization with **Grafana dashboards**, improving system observability and adherence to security standards.
- Deployed and maintained a **hardened container library** of 30+ images with automated builds, updates, and CVE scanning via GitLab CI.
- Administered **on-prem Kubernetes clusters** to serve DoD-compliant and contract-compliant software tooling.

Lancium LLC June 2019 - June 2021
Software Development Intern *Charlottesville, VA*

- Managed Lancium's **on-prem compute clusters** with Bash and Ansible. Wrote automation to benchmark hardware.
- Maintained core product, debugging, and added new features (Java). Led **containerization** effort using Singularity to support security to enable.
- Developed a **customer-facing Python API** as an alternative interface for Lancium's platform.

PROJECTS

Peirce VSCode Extension February - May 2021
Senior Technical Project *Node.js, Python, Shell Scripting, git*

- Worked with a UVA research team adding physical semantics to cyber-physical systems code. I wrote a proof-of-concept VSCode extension that more tightly-integrated the team's program, Peirce, and the code on which it was operating. Paper here: https://doi.org/10.18130/0bt3-4r71

References available upon request