Charles McEachern

ch@rles.uno charles.uno (651) 269-9245 Minneapolis, MN

Summary

Ten years experience using Python for automation and analysis. Fluent in Linux and shell scripting. Recent emphasis on CI/CD infrastructure with Groovy, Jenkins, and Docker. Comfortable mentoring interns, onboarding employees, and creating educational materials for new technologies.

Experience

Software Engineer, Cray Inc *2016–Present*

- Built a **CI/CD** pipeline using **Groovy**, **Docker**, and **shell** scripts. Automatically compiled, tested, and distributed **RPMs** on commit in support of 20 engineers and 50 repos.
- Interfaced with **REST APIs** for BitBucket and **Jenkins** using **Python** scripts. Automated triggers and cleanup to eliminate hours of error-prone browser menus.
- Implemented a **Python** module for control and testing of the Cray XC cooling system. Isolated bugs that, if released, would have cost millions of dollars in waste and damage.
- Mentored two interns, both of whom were awarded extensions. Prepared and presented educational materials to onboard dozens of new employees.

Performance Intern, Cray Inc *2014–2015*

- Created a parallel **Python** harness to run nightly tests against Cray's performance analysis tools. Filed detailed bugs against Cray, Gnu, and Intel compilers.
- Automated **shell** environment configuration, **C++** and **Fortran** source code generation, and performance report parsing. Increased test code coverage dramatically.

PhD Candidate, University of Minnesota *2009–2016*

- Benchmarked and optimized a model of near-Earth electromagnetic waves in parallel **Fortran**. Analyzed hundreds of gigabytes of data in **Python** to identify novel patterns.
- Led laboratory exercises and tutored at-risk students individually. Communicated detailed concepts to audiences with varied technical backgrounds.
- Coordinated between professors, graduate teaching assistants, and undergraduate tutors as Head TA. Coached new team members to improve student outcomes.

Education

PhD, University of Minnesota *2009–2016*

- Space physics, Burlaga/Arctowski Medal Fellow

BA, St Olaf College *2005–2009*

- Math (Distinction), Physics (Distinction), Magna Cum Laude