James Kesley Richardson

email james@jkesley.com — **phone** 281 728 6699
github xylafur — **website** jkesley.com

Professional Summary

Kesley Richardson is a embedded software engineer who is also a committed self learner, constantly striving for greater performance, success, and knowledge. Disciplined in creating resilient, maintainable and well documented code. Working hand in hand with software, firmware and hardware engineers at IBM Flashsystems over the last five years has given Kesley deep insight and experience over multiple slices of the technology stack.

Work Experience

Embedded Software Engineer, *IBM Flash Systems*
January 2020 - Present

Wore multiple hats, working across the stack by delivering embedded software solutions, crafting scripts for performance and functional testing, assisting in flashcard bring up, and contributing quality documentation

- Implemented NAND failure recovery mechanisms and created a resilient API to perform Raid5 reconstruction, ensuring data recovery from faulty NAND cells
- Created scripts utilized by the wider team to validate performance and functional behavior of the flashcard
- Assisted in bringing up a new generation of flashcard, implementing device drivers for various essential flashcard functionality
- Designed and crafted mechanisms to manipulate the internal state of the flashcard to allow for quicker filling, leading to quicker performance and functional test results
- Created scripts utilized by the wider team to validate performance and functional behavior of the flashcard, allowing issues to be caught faster and ensuring product quality
- Learned to think across the stack and develop resilient architectures that meet both performance and costs

Flashcard Team Intern, *IBM Flash Systems*
January 2017 - December 2019

Worked on various projects as the Flashcard Team's intern, developing a rich and diverse skill set in Embedded Firmware and Hardware Development, Userspace Programming, Scripting, Linux Utilities, System Management and Administration, and Network Infrastructure

- Created automated build verification methodology to continuously verify the functionality of the latest Hardware and Firmware builds on physical hardware
- Developed Linux user-space utilities to communicate with flashcard over both PCIe and I2C
- Designed, created, oversaw and performed both automated and manual tests
- Developed and delivered various internal full stack web applications

Education

University of Houston (2016 - December 2019)
Major: Bachelors of Computer Science
Minor: Computer Engineering Technology and Mathematics
GPA 3.627

Skills

- Three years work experience developing bare metal embedded software solutions in C
- Five years experience developing quality solutions in Python
- Proficiency in Bash scripting and Linux Utilities
- Experience in digesting datasheets and producing resilient device drivers
- Understanding of computer architecture design and implementation