Preston H. Carpenter

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EXPERIENCE

Amazon Web Services (AWS) | Seattle, WA — April 2020 - Present
Software Engineer II
- Led the successful migration of the global Amazon Linux operating system release process to Step Functions and Cloud Development Kit (CDK). The new streamlined system releases operating systems in just 6 hours, a 94% reduction from the old system (4 days).
- Centralized OS release operations into a Python CLI, replacing an ad-hoc AWS web-console workflow. Engineers now use this tool instead of relying on tribal knowledge and outdated runbooks to release Amazon Linux.
- In charge of multiple operating system releases with strict deadlines and need-to-know information. Successfully released Amazon Linux (AL1, AL2, AL2023, and internal versions) in every AWS region and partition (Commercial, China, US-Government)
- Patched CVEs in critical software packages from upstream and other distributions. Was part of the chain of trust for embargo'd security patches to critical software packages (e.g. Linux kernel, `sudo`, `log4j`)
- Managed intern in 2022 who converted to full time in 2023. Mentored other junior engineers, including an engineer that switched to a more technical role under my guidance.
- Automated manual tasks in a distributed system for all AWS regions/partitions with Rust, Python, and Bash.

Starry | Boston, MA — February 2019 - April 2020
System Software Engineer
- Wrote Rust and C++ firmware for embedded devices that power Starry internet.
- Implemented backbone fiber network fail-over with Python and networkd.
- Designed and produced SSH-based remote device support system for technicians, using Rust and gRPC.

Google | Montreal, QC — August 2018 - November 2018
Software Developer Intern
- Implemented a system to detect and remove malignant extensions in the Chrome Cleanup Tool in C++.

Microsoft | Redmond, WA — May 2018 – July 2018
Software Engineer Intern
- Developed a SKU document analyzer and reporting tool for Azure's hardware engineers in C# and HTML.

Intuit | San Diego, CA — July 2017 – December 2017
Software Engineer Co-op
- Java backend developer on "machine learning as a service" product that powers Mint and Turbo data insights.
- Eliminated manual deployment/testing by setting up automated continuous integration and deployment in AWS.

Kinto Care | Boston, MA — July 2016 – January 2017
Full Stack Engineer Co-op
- Developed flagship cross-platform phone app using Javascript with React and Cordova.
- Integrated and expanded back-end API powered by Flask and Postgres.

Beechwood Software | Boston, MA — January 2017 – July 2017
Software Engineer Intern — November 2015 – July 2016
- Contributed C++ to open-source Alljoyn framework in collaboration with Allseen Alliance and Linux Foundation.

PROJECTS

Way Cooler (Wayland Window Manager)
- Independently created tiling Wayland window manager with 6,000+ downloads and 2,000+ stars on Github.
- Designed a programmable interface using Lua to extend. a basic compositor core in Rust

COMPUTER KNOWLEDGE

Languages: Python, Rust, Go, Java, Javascript, Typescript, C, C++, Bash, Lua
Technologies: AWS, CDK, gRPC, Protobuf, NGINX, systemd, Git, Wayland, Docker, Flask, Postgres

EDUCATION

Northeastern University | Boston, MA — September 2014 – May 2019
Bachelor of Science in Computer Science
Relevant Courses: Compilers, Computer Systems, Programming Languages, Networks and Distributed Systems, Algorithms and Data, Systems Security

Hobbies: cat dad, hiking, captain of kickball team