Preston Carpenter

apragmaticplace@gmail.com | 417-438-7110

linkedin.com/in/timidger | github.com/Timidger | timidger.github.io

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EDUCATION

Northeastern University | Boston, MA   September 2014 – May 2019

Bachelor of Science in Computer Science, 3.0 GPA

Relevant Courses: Compilers, Computer Systems, Programming Languages,
                     Networks and Distributed Systems, Algorithms and Data, Systems Security

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COMPUTER KNOWLEDGE

Languages: Rust, C, C++, Python, Go, Javascript, HTML, CSS, Bash
Technologies: tokio, Linux, Wayland, Git, Meson, Bazel, Protobuf, gRPC, Emacs

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EXPERIENCE

Starry | Boston, MA   February 2019 - Present

System Software Engineer
- Writing Rust and C++ firmware for embedded devices that power Starry internet
- Using latest Rust libraries - Tokio, Futures, Failure, Serde, and proc-macro
- Mentoring C++ programmers as we transition to most of our code to Rust

Google | Montreal, QC   August 2018 - November 2018

Software Developer Intern
- Implemented removing unwanted, force-installed extensions in the Chrome Cleanup Tool, a program that secures millions of Chrome installs on Windows computers silently every week
- Collaborated with other engineers at a Chrome security conference and offered my knowledge of Rust to discussions
- Expanded reporting metrics and updated privacy policy to facilitate unwanted extension fingerprinting

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
- Collaborated with other teams to standardize external OEM and internal datacenter documents for automation
- Streamlined the configuration program for a boot loader used in datacenters to be more user friendly

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 and testing by setting up automated continuous integration and deployment
- Won the internal "Codechella" hackathon by extending the intranet website to include skills and project search

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

Beechwood Software | Boston, MA   January 2017 – July 2017

Software Engineer Intern   November 2015 – July 2016
- Contributed C++ code to the open-source IoT (Internet of Things) Alljoyn framework in collaboration with the Allseen Alliance and Linux Foundation
- Developed smoothing algorithms to calculate distance between a wide range of different quality bluetooth devices
- Assembled and tested the prototype presented at CES in Las Vegas using Rasberry Pis and Nest thermostats

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PROJECTS

Way Cooler (Wayland Window Manager)   January 2016 – May 2019
- 2nd most popular tiling Wayland window manager with 6,000+ downloads and 2,000+ stars on Github
- Pragmatically separating compositing and Lua API into separate processes for performance and stability
- Implementing a programmable interface using embedded Lua to extend a basic Wayland compositor

wlc-rs, wlroots-rs (Safe Rust bindings to C Wayland libraries)   October 2017 – April 2019
- Designed and implemented a safe interface to wlc and wlroots (its successor)
- Programmed basic proof-of-concept compositors in 100% safe Rust, including old versions of Way Cooler.
- Thoroughly explored the design space for designing an ergonomic & safe API around a complicated C library.