

## Zoe Carver

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## Open Source Contributions

### libc++

I have made commits to libc++ that fix bugs, resolve LWG issues, and implement C++17 and C++20 features.

### Clang

My clang patches have primarily consisted of frontend changes that fix builtins or add type trait builtins to improve compile time.

### Swift

My contributions to the Swift project have consisted of fixing frontend bugs, improving language features, LLVM codegen, and adding support for C++ interoperability. Two specific sub-projects I've worked on are:

- Propagating ownership support throughout the optimizer to achieve more performant code with fewer errors.
- Supporting C++ interoperability with Swift. This means that all C++ APIs and libraries can easily be imported into a Swift codebase. The benefits of this range from allowing larger companies to start using Swift in more of their projects to allowing the Swift compiler itself to start implementing features in Swift rather than C++.

### Swift Libraries

I have developed several Swift libraries such as, [pointee](#), a wrapper for pointers in Swift; [JSONParser](#), a JSON parser that uses dynamic member lookups; [icons8](#), a UIImage wrapper for more than 12k icons; [swiftplay](#), an AirPlay server utility.

### Fly

I contributed to the fly.io open source edge application runtime.

### YOLO

I re-implemented the YOLO object detection network using Keras and Python.

## C++ Contributor

I attended the Prague C++ ISO meeting (2020) and received a student scholarship to the 2019 CppCon. I have implemented several C++ standard library features including:

- P0356: Simplified partial function application (bind\_front)
- P0053: C++ Synchronized Buffered Ostream
- P0674: Extending make\_shared to Support Arrays
- N4282: observer\_ptr

## Experience

### Pro.com - Intern - Summer 2019, Summer 2020

As an intern at Pro.com, I worked as a full-stack engineer across several projects. I was one of the primary developers of their homepage website. The website used a CMS to generate pages and pass data through React components dynamically. I also worked on internal iOS and Mac apps using RxSwift. Technologies: TypeScript, React, RxSwift.

### Healthy School Buildings - iOS & Full Stack Developer - Summer 2018

I was an engineer on a team of three that built iOS and React Native apps for school district clients. I learned how to program collaboratively. I'm proud of the iOS app we built because it leveraged native APIs to implement a clean and responsive design. Technologies: Swift, Objective-C, React Native.

### Foundry 10 - Intern - Summer 2017

As an intern at Foundry10, I helped build a multiplayer game. Technologies: C#, Unity, Node.js, Sockets.

## Robotics

I was the Programming Lead on Seattle Academy's varsity robotics team for two years, competing in the FIRST Tech Challenge for one year and the FIRST Robotics Competition for the other. I built a custom neural network to quickly detect position and size of game objects on low power hardware. We qualified and competed at the World Championship in Houston, where we won the "Think" award for process and documentation. Technologies: Android Java, TensorFlow, Python.

## Skills

- C++, C (four years)
- Swift, Objective-C, iOS/Mac Development (four years)
- Python, ML / Data Science (two year)
- Javascript, React Native, Node.js, React, Redux, Express (five years)

## Education

Seattle Academy, 12th Grade, GPA: 3.9