

## Education

**Rochester Institute of Technology**  
2013 - 2018

BS in Computer Science with a focus on programming languages and tooling. Member of Computer Science House (<https://csh.rit.edu>)

## Experience

**Apple**  
2018 - present

Engineer on the Swift Compiler Frontend team. Worked with a small team to create a stable module format for Swift projects, and several build optimizations to improve building Swift projects within Apple's operating systems.

**Google**  
2018

Part-time remote contractor standing up an open-source Swift code formatting tool which is now hosted on Apple's GitHub and is the official formatter for Swift.

**Apple**  
2017

Intern on the Swift Compiler Frontend team. Worked on C++ and Swift APIs for parsing and analyzing Swift files. These APIs are powering SwiftUI live previews and the automatic code updating features.

**Bryx**  
2013 - 2018

Lead iOS Developer working on Bryx 911, a cross-platform mobile app for Fire and EMS responders. Used by hundreds of fire departments and thousands of first responders in the United States on a daily basis.

**Apple**  
2016

Intern on the Swift Quality Engineering team. Worked on the code coverage infrastructure for the Swift programming language. My contributions were open source, and typically in Python, Swift, and C++.

**Apple**  
2014

Intern on the HomeKit team. Created HomeKit Catalog, a developer sample code project that exercises the full HomeKit API on iOS 9 in both Objective-C and Swift

## Projects

**Trill**  
[bit.ly/trill-lang](http://bit.ly/trill-lang)

A general purpose programming language that compiles to native code using LLVM. The compiler is written in Swift, and supports most features of C, with a much stricter static type system.

**SwiftGraphics**  
[bit.ly/swift-graphics](http://bit.ly/swift-graphics)

An exploration to create a cross-platform graphics engine in Swift backed by OpenGL. Focus on efficient, type-safe abstraction on top of unsafe, buffer-heavy shader APIs.

**LLVMSwift**  
[bit.ly/llvmswift](http://bit.ly/llvmswift)

An open source library that wraps the LLVM API in a native Swift wrapper. Used as the code generation backend library for Trill and Silt.

## Achievements

**2019** Presented *Binary Frameworks in Swift* at WWDC 2019

**2018** Presented *Becoming an Effective Contributor to Swift* at AppBuilders in Lugano, Switzerland

**2017** Presented *Improving Swift Tools with libSyntax* at try! Swift in New York City

**2017** Presented *How to Clang your Dragon: Building a Compiler with LLVM* at PlaygroundsCon

**2014** Co-author on US Patent 20150350031 for HomeKit, owned by Apple