

# Aiden Benner

SOFTWARE DEVELOPER

☎ (587) 582-2114 | ✉ [aiden.benner@gmail.com](mailto:aiden.benner@gmail.com) | 🏠 [abenner.ca](http://abenner.ca) | 🔗 [aidenbenner](https://github.com/aidenbenner) | 📺 [aidenbenner](https://www.youtube.com/channel/UCv33333333333333333333)

## Skills

**Languages:** C++ // C# // C // Java // Python // JavaScript // Scala

**Technologies:** Django // .NET // Node // React // Android // iOS

**Tools:** Git // Unix // Bash // Vim

## Experience

### Google

Waterloo, Ontario

SOFTWARE DEVELOPER INTERN - CHROME

Sep 2018 - Dec 2018

- Developed a Java annotation processor to simplify use of the Java Native Interface and to allow mocking and obfuscation of classes that contain native methods by generating wrapper classes and header files using JavaPoet and Guava
- Added support for annotation processors in the custom generation of gradle files in order to work with Android Studio
- Added support for python autoformatting over diffs in chromium developer tools by using regex to parse git diff output
- Created an ErrorProne rule to detect redundant initializations of fields by statically processing the Java AST in order to minimize chromium's binary size

### A Thinking Ape

Vancouver, BC

SOFTWARE DEVELOPER INTERN - LIVEOPS/FULLSTACK

Jan 2018 - May 2018

- Automated the process of adding in-game items using Django and JS, saving designers hours per iteration cycle
- Designed a service using Django that sends users notices and push notifications for important in-game events
- Developed a news activity on iOS/Android for a mobile game with +10 million downloads that lets players receive and manage in-game alerts and notifications

### Localintel

Calgary, AB

SOFTWARE DEVELOPER INTERN - FULLSTACK

May 2017 - Sep 2017

- Created a service that generates pdf reports from municipal microsites for clients using Latex, Angular 2, and C#
- Developed an automated visual CI regression test utility using phantomjs and Node.js to detect frontend changes
- Designed a Python utility to compile site usage data into internal metric reports and graphs using matplotlib

### GEO-SLOPE International

Calgary, AB

SOFTWARE DEVELOPER INTERN - FULLSTACK

July-August 2014, 2015, 2016

- Developed a webservice, using C# and SQL, to parse analytics XML from thousands of GeoStudio sessions daily
- Created a utility using C# that uses license data to send customers reminders, automating hours of work weekly
- Implemented a service to detect log errors and send internal alerts when scheduled tasks and services fail

## Education

University of Waterloo - Candidate for Bachelor of Software Engineering

Waterloo, Canada

3.9+/4.0 ENG/MATH FACULTY CGPA

2016 - 2021 (Expected)

## Projects

### Halite 3

C++

- A bot written for a game AI competition. Ranked 1st at the undergrad level, 7th/4000+ overall
- Bot uses the Hungarian algorithm for job assignment and order dispatching

### Raytracer

C++

- A realistic graphical renderer and vector math library that simulates light ray projection
- Supports reflections, refractions, translucent material and soft shadows using montecarlo rendering

### Lacs Compiler

Scala

- Compiles a subset of Scala into Mips assembly using CYK parsing and an abstract syntax tree
- Supports closures, inner functions, first class functions, garbage collection, and type checking

### Matrix Utils

JavaScript

- Web interface allows users to input matrices and perform operations with LaTeX output
- Uses Gaussian Elimination to calculate matrix inverses and determinants

### Genetic Art

Python

- Generates art by recreating a source image using as few basic shapes as possible
- Uses a mixture of genetic algorithms and hill climbing heuristics to minimize squared pixel distance