## Education

## **University of California** Berkeley, CA

B.S. Computer Science, College of Engineering (EECS), Class of 2022

### Whitworth University Spokane, WA

C++/Object Oriented Programming, (Non-Matriculated) 2017

## **North Idaho STEM Charter** Rathdrum, ID

STEM High School Diploma, Class of 2018, Student Body President

## Skills

## Languages

- o C++
- Python
- JavaScript
- HTML/CSS
- Swift

## **Technologies/Tools**

- o Mobile
- Desktop
- o Web
- Robot programming
- Bootstrap
- XCode
- o iOS
- Firebase
- o Qt
- Angular
- JQuery
- o Selenium
- o Flask
- o REST
- o AWS Lambda
- Alexa Skill
- o Git
- Photoshop
- Sketch
- Linux/Bash

# Experience

**Blue Marble,** Hayden ID | Software Engineer Natural Language Processing Web-based application development platform that allows non-programmers to build Amazon Alexa skills

- Researched Alexa and AWS toolkits, responsible for design and coding of the proof-of-concept, and handover to development team
- Coded JavaScript front-end using Angular, Bootstrap, and JQuery and generates JSON output based on user's web-form data input
- Created Python FLASK service inputting JSON and generating associated python code and creating AWS Lambda function
- Used Selenium with headless Chrome Driver skill registration

**Graduation Order,** Hayden ID | Consultant 10/17-4/18 Graduation ceremony application manages students called up on stage

• Built a C++ application front end that interfaced to a mySQL backend

MakeSchool Academy, San Francisco CA | Participant 6/16-8/16 Full-time intensive IOS development bootcamp (YCombinator funded)

- Built 7 Swift and FireBase iOS apps including clone of Instagram
- Participated in "Demo Days" and final presentations to investors

ExtraTech Systems, Post Falls ID | Intern 6/14-12/14 Manufacturer of high-end motor controllers for use in robotics

Built a responsive web interface to monitor multi axis motor controllers using Angular, Node, and Bootstrap

# Personal Projects & Research

## **Scrabble Game Utility**

Checks your Scrabble pieces to make sure none are missing before play

- Uses machine vision to recognize jumbled letters in a photo
- SWIFT mobile UI interfacing to OpenCV via FLASK on AWS
- https://github.com/joe-broder15/Scrabblr

#### Mango Reader

PC-based Kindle-like reader for Japanese Genre "Manga" comics

- Built in C++ with Qt, features include a thumbnail gallery, saving books, and image zoom with kinetic scrolling
- https://github.com/joe-broder15/mango

#### ShoutOut

iPhone application to find events happening "Right Now"

- Used Apple Maps and Firebase
- https://github.com/joe-broder15/OutSource