**EDUCATION**

HARVEY MUDD COLLEGE, GPA 3.61

B.S. Physics & Computer Science: Expected, May 2020

**Relevant Coursework**

Special Relativity • Mechanics • Electricity & Magnetism • Principles & Practice of Computer Science • Data Structures & Program Development

**COMPUTER SKILLS**

Languages: Python • Node.js • C++ • Javascript • C • Java • C# • Assembly Language

Software: Git • Unix • TCP / IP • SolidWorks • MySQL • OpenCV • JQuery • PIL • matplotlib • Jekyll • socket.io

**WORK EXPERIENCE**

**Software Intern,** Loansnap Summer 2018

* Internship has not yet started

**Software Intern,** EchodyneSummer 2017

* Designed Windows Service to remotely stream data from radar
* Uses TCP / IP stack to ensure low latency and high throughput
* Event-driven architecture used to minimize CPU usage
* Deployed backend on Amazon Web Services

**Software Intern**, Microsoft Research Spring 2016

* Helped develop a high-altitude wind model using real-time data from planes
* Built C# backend deployed on Microsoft Azure to ingest data from planes, generate models, and serve models
* Used data science to prove accuracy of the wind model, presented findings to clients with head of Microsoft Research, Eric Horowitz

**Research Intern,** University of Washington Ubiquitous Computing Lab Summer 2015

* Wrote C code for Nexus 5 smartphone kernel to improve performance of phone touchscreen when wet
* Results documented on project website: <http://isaaczinda.com/raincheck/>
* Co-authored paper, publication in progress

**PROJECTS**

**Developed Rendering Engine** Winter 2018

* Ray Casting and Phong Reflection Model used for realistic reflection and shadow effects
* STL encoded objects may be rendered

**Developed Digital Circuit Simulator**  All of 2017

* Supports nand gates, wires, clock; users define custom gates from these components
* Designed 4-byte memory using program graphical interface

**Wrote Optical Character Recognition** **Tool** Spring 2016

* Extracts lines and words from scanned documents
* Makes use of industry standard OpenCV image processing library

**Created Neural Network from Scratch** 8/15-3/16

* Recognizes handwritten characters, documented here: [isaaczinda.com/character-recognition-neural-network](http://isaaczinda.com/character-recognition-neural-network)
* Network is feed-forward with one hidden-layer, and trained with backpropagation