MATTHEW L. RUSSELL

838 Warder Avenue
University City, MO 63130

(314)-685-5499
mattlruss@gmail.com
github.com/Clarvel

Education

- **University of Minnesota** Aug 2011 – Present
  Studying for Bachelor of Computer Science

Work Experience

- **Lab Assistant** June 2011 – Aug 2011
  Washington University Radiation Oncology, 4511 Forest Park Medical Building 30 hours per week
  - Assisted with the cultivation of cell cultures using methods that maintained a high rate of growth.
  - Helped test the viability of using radiation to inhibit growth in cell cultures.
  - Developed a potential new webpage for the laboratory.

Volunteer Service

- **Church related service** June 2012 – Aug 2012
  6901 Washington Avenue, University United Methodist Church
  - Fabricated and raised 2 walls to build a room around protrusions and doorways.
  - Helped tear down plaster lathe to repair rotted sill work.
  - Poured concrete for the new sill.
  - Took apart and repaired door handles.
  - Laid tile for flooring through high traffic areas.

Skills

- **Technological Skills**
  - Proficient in programming with Java, C++, Python, Javascript, HTML
  - Proficient with Matlab, Processing
  - Proficient with Arduino Microcontroller
  - Proficient with Microsoft Office Suite
  - Proficient with Adobe Illustrator CS6

Projects

- **Programming**
  - Designed and programmed a C++ program to play the game Go on the terminal with a basic computer AI and different board sizes. April 2013
  - Designed and programmed a simulation of a bus route to analyze the number of busses needed to deal with varying rider loads on the system. December 2013
  - TennoTyper, a web application that translates text into script based on languages in the game Warframe. November 2014
  - Py3bot, an IRC chat bot written in Python, designed to be easy to modify its behavior in response to received messages. February 2015
  - Built a particle system with configurable emitters and particles allowing for various effects including waterfalls, fire, and fireworks. September 2015
  - Built a 3D Raytracer using the Phong illumination model from scratch that handles reflections and refractions. October 2015
  - Implemented A* and Dijkstra's search algorithms for travelling through a 3D space littered with obstacles in real time. November 2015
  - Created a 3D Boids implementation utilizing A* to guide the Boids flocks through an obstacle laden space. December 2015

- **Robotics**
  - Designed, programmed and built a small robot that follows a wall without touching it using infrared sensors. November 2012
  - Designed, programmed and built a ten probe thermometer that sends an alert when temperature range on any of the probes changes, detailing which probes are out of the normal range. December 2012