MAX KNUTSEN

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EDUCATION

University of Maryland, Baltimore County, Baltimore, Maryland
Bachelor of Science in Computer Science
Expected Graduation: December 2016

McLean High School, McLean, Virginia
Advanced Diploma
Graduated: June 2013

WORK EXPERIENCE

Cougaar Software, Inc. – Junior Software Engineer Intern – Vienna, Virginia Summer 2014 & 2015

Designed and implemented a set of monitoring capabilities for a Java distributed network and used AngularJS to build a website for viewing and manipulating system health data.

Designed a modular, goal-oriented robotics framework and used Cougaar Software's Active Edge communication network to implement two sample robotics systems. Also designed and implemented a serial communication grammar for Raspberry Pis to task Arduino Unos.

TIC Summer Camp – Robotics Counselor – McLean, Virginia Summer 2012 & 2013

Instructed children between the ages of 6 and 16 on design concepts as well as programming in either RobotC or the native Lego Mindstorms IDE.

PROJECTS

Real Time Artificial Intelligence March 2015 — Present

Developed a two dimensional shooting game with mechanics constrained to shooting, shielding, and vertical movement. The computer used the player's recent movements to construct a decision tree and then react using modular action sequences.

Retriever Robotics September 2013 — Present

Held the position of lead programmer from 2013 to 2015 and treasurer during the 2014 — 2015 season. Worked on the design and programming of a versatile mobile robot that was capable of manipulating objects, navigating obstacles, and hanging itself from a 40" bar for use the VEX Toss Up competition. The following year, I had the same role in developing a robot that could arrange vertical tubes on the map, as a part of the VEX Skyrise Competition.

Boggle September 2013

Contrasted the performance of a trie and hash table to quickly confirm word guesses. Used Java to create a responsive and intuitive Graphical User Interface for the classic board game.

Connect Four January — May 2013

Utilized a Minimax tree to traverse five layers of potential moves and minimize the potential worst case scenario. Created an artistic GUI in Java with animations and sound effects, as well as several menus.