MAX KNUTSEN

mknutse1@umbc.edu | mknutsen.github.io | 703.300.6216

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 2014 - 2016
Performed research development in the fields of system scaling, script injection, health monitoring, and controlling embedded systems. These capabilities were developed in Java, AngularJS, Jython, and Arduino.

PROJECTS

Checkers AI November - December 2015
Implemented a fully playable checkers game with a small team. The AI used the minimax theorem with alpha beta pruning to efficiently select the optimal move for each turn. The game was programmed in Java, using Swing to display and interact with the board.

FloatBot September - December 2015
Worked on a diverse team consisting of hardware and software specialists to modify and task an AR.Drone 2.0. The drone was given landing stilts and partially covered with a water resistant material so it could land on water. A Robot Operating System (ROS) module was used to direct its movement and process visual data from the onboard cameras using OpenCV with the goal of landing near an object in a swimming pool.

Real Time Artificial Intelligence March 2015
Developed a two dimensional shooting game with mechanics constrained to shooting, shielding, and vertical movement. The algorithm 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 versatile, mobile robots for the VEX Toss Up, Skyrise, and Nothing But Net competitions.

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.