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CASSANDRA QUACH

EDUCATION

Charlottesville, VA — **University of Virginia** — **Fall 2018 – Present**

- Pursuing a B.S. in Computer Science
- Current Fall Undergraduate Coursework: Data Structures and Algorithms; Comp. Organization and Architecture; Digital Logic Design; Intro to Engineering; Calculus III

Alexandria, VA — **Thomas Jefferson High School for Science and Technology** — **Fall 2014 – Spring 2018**

- Weighted GPA: 4.3
- Coursework: AP Computer Science and Data Structures, Artificial Intelligence 1 and 2, Robotics 1 and 2

EMPLOYMENT

Software Engineer, Intern — **George Mason University Robotics Lab** — **Fall 2017 – Spring 2018**

- Created a priority queue algorithm to handle collision system in the robot simulation
- Debugged the collision detection system and figured out the projected updated distance was incorrect because the velocity was not multiplied by the timestep
- Designed and created the classes for different object types for the simulation including the robots, cans, walls, and boxes
- Added input and output sensor simulations using classes like rayCast from the Java Box2D library
- Learned version control using GitHub. Created repositories and pushed and pulled code using terminal

TECHNICAL EXPERIENCE

Personal Projects

- **Personal Website** (2017 – present). A website displaying personal projects, courses, accomplishments, and hobbies. Written in HTML, CSS, and JavaScript using web text-editor Brackets and hosted on GoDaddy.
- **IOS Apps** (2017 – present). Learning Swift and how to use Xcode by building simple notes, calculator, and other apps through tutorials on Udemy, an online learning platform.

School Projects

- **Othello, Sudoku, TicTacToe, nQueens, 8-Puzzle, 15-Puzzle Solutions Using AI** (2017 – 2018). Coded in Python using PyCharm IDE. Used BFS, Bi-directional BFS, DFS, Iterative DFS, Minimax with Alpha-Beta Pruning, and Constraint Satisfaction Problem algorithms. Used a multitude of heuristics including Manhattan Distance, Minimum Remaining Values, Least Constraining Value, and Random to explore time and space efficiency.
- **Amazon Alexa Wifi-Enabled Smart Outlet** (2017). Used IFTTT to connect Amazon Alexa to Outlet feed on Adafruit. If the Outlet feed received a "1" or a "0," the power would turn on or off respectively.

ADDITIONAL EXPERIENCE AND AWARDS

- **AP Scholar with Distinction Award (2018):** This award is granted to students who receive "an average score of at least 3.5 on all AP Exams taken, and scores of 3 or higher on five or more of these exams."
- **AP Scholar with Honor Award (2017):** This award is granted to students who receive "an average score of at least 3.25 on all AP Exams taken, and scores of 3 or higher on four or more of these exams."
- **National Center for Women and Information Technology Certificate of Distinction Award (2017):** Awarded for "computing-related aspirations and for demonstrated interest in technology, solid leadership ability, academic history, and plans for post-secondary education."

Programming Languages and Technologies

- Java; Python; JavaScript; HTML; CSS; Arduino; Bash
- Atom; Eclipse; GitHub; PyCharm; Xcode;