Jack Jones

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EDUCATION   **The University of Texas at Dallas,** Richardson, Texas **Bachelor's in Computer Science**

Graduated December 2023   **GPA: 3.727**   **Cum Laude**

Relevant Courses: Introduction to Machine Learning, Introduction to Computer Vision, Linear Algebra, Calculus 1&2, Advanced Algorithms Design and Analysis, Data Structures and Algorithms, Scientific Computing using Python, Physics 1 & 2

Microsoft Certification: **Azure AI Fundamentals**

LeetCode Points: **1252**   **Problems Solved:**   **157**

Class Projects

Raytheon Drone Competition: Collaborated with Raytheon and fellow students of various degrees to develop a cutting-edge drone and ground robot. The drone would locate other ground robots and spray them with liquid. Specialized in developing the computer vision system of the drone utilizing linear algebra, Python, and Linux. The computer vision system would find enemy ground robots and get the global coordinates and velocity of a ground robot. Also specialized in preparing and flashing the drone's Jetson TX2 Linux computer. Lead the team in organizing meetings and working with the Electrical and Computer Engineering team.

Pipe Anomaly Detection: Worked with a team on data generation and creating and training a deep learning computer vision AI system that would recognize damaged pipes using a Convolutional Neural Network (CNN) deep learning algorithm. 100% success rate, on around 132 training photos. Worked with team members to create a rig to collect the necessary training images.

Slider Stack Game: Worked with a team to develop a Unity-based game where users assemble virtual sandwiches by sliding a bun and stacking ingredients to match a menu. Utilized skills and experience gained from internship to work with the team to create the game. Created programs and algorithms to make the bun move, spawn the food in the sky, stack the food on the bun, and more.

Flight Path Algorithm: Independently developed a program utilizing an iterative backtracking algorithm to identify the top three optimal flight routes between airports. The flight routes would be based on either the price or the time to finish the route.

Kanban Board: Collaborated with a group to develop a prototype Kanban board application.

INTERNSHIP   **Space x View**, Japan (Remote)   September 2022 – October 2022

EXPERIENCE   Software Engineer

Utilized Agile methodology and object-oriented programming to develop the company's virtual reality platform using the Unity Library, Git, and C# scripts. Created 2 city blocks, added a new avatar, and a mini map. Added new tools, features, and objects to allow the user to move the avatar and open doors and other various features to better interact with the objects in the virtual platform.

ROBOTICS BUILDS   YouTube presentation on the robots   Conceived**,** designed, built, and implemented the digital

circuits, mechanisms, and programs for various autonomous robots utilizing the C and C++ related Arduino language.

Coffee Robotics (In Progress): Simulates manufacturing coffee by making chocolate milk and placing a cap on the cup. This will eventually create nearly any coffee through an app. The app is being created with Flutter.

Sidewalk Robotics: Followed sidewalks using computer vision. Successfully tested a drive of around 2 miles while carrying a heavy payload of 6 cans and ice. The robot would follow the edge of the sidewalk using a camera and avoid people using various sensors.

6Can Robotics: Competed in the DPRG 6Can fall 2018 and 2023 competition, earned 3rd place. The competition includes a small room and 6 soda cans that need to be moved out of the room. The robot used computer vision to grab cans and it used ultrasonic sensors to find the exit to the competition room. The robot now uses a rotating LiDAR sensor to find the exit and orient itself.

TECHNICAL PROFICIENCY   **Python, Java, Arduino, C#, C/C++, Agile, Machine Learning, TensorFlow, PyTorch,Scipy, Numpy, Computer Vision, OpenCV, Algorithms, Visual Studio, Git, Unity, Linux, MIPS, Racket, Prolog**