Devon Gardner

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OBJECTIVE

To obtain a position on the Dragon or Starship Software team with SpaceX using computer architecture knowledge, embedded systems development, and an unbreakable will for debugging.

EDUCATION

Bachelor of Arts in Computer Science   May 2023
New College of Florida - Sarasota, FL
Honors Thesis: Comparative Analysis of Robotic Arm Control Architectures

Associate of Arts   August 2020
State College of Florida - Bradenton, FL

RELATED COURSES & SKILLS

Robot Kinematics; Embedded Systems; Computer Architecture; Software Engineering; Machine Learning for Visual Thinkers; Object-Oriented Programming and Design

Skills: C++, Python, Java, C#, Javascript, Embedded Systems, Linux OS, GitHub, ROS

SOFTWARE EXPERIENCE

Research Assistant   May 2021 – August 2021
University of South Carolina Center for Computational Robotics   Columbia, SC
- Collaborated with team of graduate researchers on marine robot computer vision research project
- Produced training dataset of underwater cave speleothem consisting of 24 thousand labels of four classes of interest
- Trained YOLOv5s object detection model on training data resulting in mean average precision of 0.85, which allowed model to be used as part of larger research project
- Wrote research paper and created conference poster to convey process and findings at multiple symposiums attended by researchers, graduate students, and professors

WidowX 200 Robot Arm Control   Present
- Created helper library for DynamixelSDK to simplify usage of Dynamixel motor serial communication
- Applied linear regression to recorded robot arm joint angles over time to produce Gaussian mixture model based motion primitives for preforming actions without human control
- Computed three dimensional coordinates of robot arm end effector using Denavit-Hartenberg based forward kinematics
- Evaluated performance of various motion primitives through root mean square error metric

Minecraft Hack Arithmetic Logic Unit   Fall 2021
- Designed 16-bit ALU using Minecraft redstone system
- Implemented basic logic gates in redstone with which I created circuits such as multiplexor and full adder to produce a functional 16-bit two's complement Hack ALU

ADDITIONAL EXPERIENCE

Supplemental Instruction Specialist   October 2019 - Present
State College of Florida Academic Success Center   Bradenton, FL
- Tutor college level students in Calculus 2 level math and below, Physics with Calculus, and Introductory and General Chemistry
- Assist computer science students with programming concepts, structure, and syntax of Python and Java.
- Provide assistance in navigating and using Microsoft Word, Microsoft Excel, and Canvas by Instructure