Devon Gardner

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EDUCATION

Bachelor of Arts in Computer Science at New College of Florida August 2020 – May 2023
Honors Thesis – Exploring Robot Kinematics: an Engineering Approach

WORK EXPERIENCE

New College of Florida – Computer Systems, Architecture, and Digital Hardware Teaching Assistant Fall 2022

UofSC Center for Computational Robotics – Research Assistant May 2021 – Aug. 2021

- Collaborated with team of graduate researchers on cave diving robot computer vision research
- Produced training dataset of underwater cave structures
- Created proof of concept of YOLOv5 object detection model that recognizes classes of interest with 82 percent mean average precision

State College of Florida – Supplemental Instruction Specialist Oct. 2019 – Present

- Tutors college level math Calculus 2 and below, Physics with Calculus 1, and Introductory and General Chemistry 1
- Assists computer science students with programming concepts, structure, and syntax of Python, Java, and C++

PROJECTS

WidowX 200 Robot Arm Control Feb. 2022 – Present

- Applies linear regression to produce Gaussian mixture model based motion primitives
- Evaluates performance of various motion primitives using root mean square error
- Converts between 3-D coordinates and joint angles using forward and inverse kinematics
- Communicates with the arm through custom DynamixelSDK wrapper and ROS2

Red Tide Dashboard Spring 2021

- Designed and implemented a full-stack web application in an Agile/Scrum team of three to provide users a dashboard for red tide activity
- Interacted with Twitter, YouTube, and Spotify APIs using React and MongoDB on AWS

From Nand to Tetris Fall 2020

- Created hack 16-bit CPU and RAM from the ground up using the NAND logic gate
- Co-designed and created a functional 16-bit Arithmetic Logic Unit in Minecraft
- Implemented an assembler, that supports symbols and labels, to generate machine language from hack assembly

RELATED COURSES & SKILLS

Courses: Robot Kinematics, Embedded Systems, Computer Architecture, Software Engineering, Machine Learning for Visual Thinkers
Skills & Technologies: ROS/ROS2, C++, C, Python, Arduino, Agile/SCRUM, GNU/Linux OS, Git, Java, ReactJS