

Devon Gardner

github.com/Goosur | devon.gardner24@ncf.edu | (941) 358-1887
linkedin.com/in/devon-gardner-855282147/

OBJECTIVE

To obtain the role of Student Researcher with Google using machine learning, robot kinematics, and embedded systems development.

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, 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 performing 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

Machine Learning for Visual Thinkers Course Fall 2020

- Implemented linear regression, principle component analysis, k-means clustering, k-nearest neighbors classification and naive bayes classification algorithms from the ground up
- Preprocessed raw data for analysis through aforementioned algorithms
- Wrote reports analyzing the results of these algorithms applied to various real world datasets
- Reports and algorithm implementations found on my GitHub

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