Arthur Hafliger

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In depth Descriptions on ArthurHafliger.github.io

Education

Pasco-Hernando State College - Associate in arts (3.7 GPA) – 5/20/25
University of Central Florida - Bachelor of Science in Mechanical Engineering (3.7 GPA), Math/Robotic Systems Minor - 2028
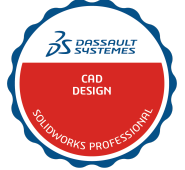
Technical Skills

Drafting - Solidworks(**CSWP**, CSWA), some Fusion 360
Programming - C and C++/Arduino
Microsoft office - Proficient in Word, Excel, and Powerpoint
Robotics - Forward and Inverse Kinematics, Jacobian Control, Singularity Avoidance
Controls - PID Control, Velocity Control

Relevant Coursework

General Physics 1 and 2, Intro to C,Technical Writing, Statics, General Chemistry 1 and 2, Calculus 1-3

Experience

Wawa - Port Richey/Oviedo, Florida,   **12/9/23 - Ongoing**

Customer Service Associate

- Handle deli operations, manage food preparation while maintaining clean standards, demonstrate effective communication to management and fellow associates
- Collaborate with fellow associates to create effective work schedules, demonstrate effective conflict resolution

Wendell Krinn Tech High SAC - New Port Richey, Florida,   **8/1/22 - 5/1/23**

Student Advisory Council – Co-Chairmen

- Participate in meetings with school officials, review budgets and proposed plans for school spending, vote on utilization spending
- Demonstrate effective leadership for the student body by showing awareness of school needs and asking the necessary questions

Radial Aircraft Engine CAD - New Port Richey, Florida,   **8/1/23 - 5/1/23**

Self Directed

- Demonstrate substantial knowledge in SolidWorks CAD, general part modeling, interpreting drawings
- Develop innovative solutions to assembly related problems, ensure functionality of basic/mechanical/advanced mates

Linetracking/Trash collecting Robot project - Wendell Krinn Tech High, New Port Richey, Florida,   **1/1/24 - 5/1/24**

Team Lead

- Design and construct a robot no wider than 7 inches that will autonomously track a line while also picking up designated "trash cans" filled with marbles of variable size, filter marbles within robot according to size, while properly logging updates and changes in an engineering notebook
- Develop a complex program in C++ enabling line tracking capabilities, utilization of a manipulating arm, operation of a color sensor
- Utilize SolidWorks for design before physical construction, using Vexx brand electronic components
- Develop a mechanically sound and compact design, including a drivetrain, manipulating arm, and a sorting system
- Work to ensure teammates contribute equally, ensure positive morale and basic conflict resolution

3 DOF Robotic Arm - Self Directed   **12/1/25 - Ongoing**

Solo Project

- Developed forward and inverse kinematics using a damped least squares Jacobian solver
- Implemented PID velocity control for manipulation by any 3 dimensional vector
- Designed singularity detection and avoidance system

SolidWorks Student Leadership Program - University of Central Florida, Orlando, Florida,   **9/1/25 - Ongoing**

Member

- Completion of CSWP prep Program

Interests

Mechanical Engineering, Robotics, Physics, Controls, Embedded Systems