Dylan McKillip

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SUMMARY

Robotics automation engineer with three years experience looking to make a difference automating dull, dirty, and dangerous tasks to improve efficiency, quality, and safety. Focus in rapid prototyping, design for manufacturing, and microcontroller development.

EDUCATION

Worcester Polytechnic Institute (WPI), Worcester MA
Master of Science, Robotics Engineering, May 2020
Bachelor of Science, with Distinction, Robotics Engineering, May 2019

TECHNICAL SKILLS

Software: Cura, KiCAD, Esprit, Git, LaTeX, Linux, MATLAB, MS Office, Onshape, Raspberry Pi, RobotStudio, SolidWorks, Agile
Programming: Arduino, C/C++, Circuitpython, Java, Python, RAPID, ROS, Micropython, PLC
Manufacturing: 3D Printing, CNC machines, hand tools, laser cutter, manual mills/lathes
Certification: Onshape Professional, OSHA 10hr General Safety, Comp. Sci. Career Path (Codecademy)

EXPERIENCE

Automation Applications Engineer, Azenta Life Sciences   Oct 2022 - Jan 2024
•Developed automated systems for accelerated cryo-storage registration with Epson robot for 4 times faster throughput
•Designed and manufactured soft grippers for compliant sample tube manipulation
•Devised test fixtures for automated dynamic motor analysis and selection for next-gen device
•Subject matter expert for rapid prototyping and design for manufacturing

Test Engineer II, Azenta Life Sciences   Dec 2020 - Oct 2022
•Lead design verification and reliability of multiple devices that automate life sciences processes
•Developed automated testing and monitoring systems for accelerated lifecycle and analysis of sample tube capper devices improved test speed from 800 to 4,000 cycles per day
•Implemented scripting tools used to show trends in failure rates and modes for premature motor failures
•Won internal award for device failure mitigation and improving customer satisfaction

Robotics Engineering Intern, Hayward Industries   Jun 2018 - Aug 2018
•Created novel robotic fixture to adapt electronics board testers into automated robotic work cell
•Device designed in Onshape and built using Arduino/C++
•Final device saved company $6,300/device not including saved labor cost
•Final presentation given to company CEO

Research Assistant, WPI   Jul 2019 - May 2020
•Researched and prototyped low cost wire arc additive manufacturing robot using industrial robot arm
•Developed testing platforms to determine feasibility of low cost solutions using microcontrollers
•Final documentation compiled and presented for efficient transition into further research

Peer Learning Advisor, Washburn Machining Labs, WPI   Jan 2018 - May 2019
•Taught and managed lab section of Intro to Manufacturing course

PROJECTS

WAAM Robot, Master's Capstone: Jan 2020 - May 2020
Planned and sourced system for Integrated Autonomous Control of Welder into Robot Arm to create Wire Arc Additive Manufacturing robot for future research.
Self Driving RC Car, Major Qualifying Project: Aug 2018 - May 2019
Developed modular RC car that navigates track using OpenCV (Python) with camera and machine learning. This project showed feasibility of low cost sensors for navigation in non-traffic situations.
Notable Course Related Projects:
•Unified Robotics 2: Made autonomous robot that navigated maze to search for and extinguish fire
•Unified Robotics 3: Programmed robot arm in C++ and MATLAB to identify and sort different objects
•Unified Robotics 4: Programmed TurtleBot in ROS for autonomous navigation and mapping of a maze
•Robot Controls: Designed, programmed, and simulated force control for plotter robot in MATLAB

LEADERSHIP/ SERVICE/ ACTIVITIES

Member, IEEE, Robotics and Automation Society   Jan 2023 - Present
Rho Beta Epsilon, Robotics Honors Society   Jan 2019 - May 2020
Eagle Scout, BSA Troop 1776, Titusville NJ   Nov 2006 - Aug 2015
Amateur Brewer, Mead, Individual   May 2018 - Present

PROFILES

Website/Portfolio: https://dylanmckillip.com
Github: https://github.com/Dynamonic