

Derek Dietz

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EDUCATION

Northwestern University, <i>MS in Robotics</i>	Dec 2026
College of William and Mary, <i>BS in Physics</i>	May 2022

SKILLS

Languages: Python, C, C++, Matlab, ROS/ROS2, SQL, MUMPS(M)

Tools: Git, SLAM, Linux, OpenCV, SolidWorks (CAD), 3D Printing, Microcontroller Design, ComputerVision, tf2, I2C, Gazebo, Coppeliasim, Rviz2, Unit Testing, Path Planning, Object Tracking, Finite State Machines, Franka

Coursework: Embedded Systems in Robotics, Robotic Manipulation, Microcontroller Design, Electricity and Magnetism, Classical Mechanics, Advanced Electronics Instrumentation

EXPERIENCE

Epic Systems - Madison, WI , <i>Technical Solutions Engineer</i>	Sept 2023 – May 2025
<ul style="list-style-type: none">Developed software solutions in M to meet unique client needs and optimize use of Epic software.Provided custom system integration and debugging support, improving Epic performance and client satisfaction	
NASA - Hampton, VA , <i>Aerospace Engineering Intern</i>	June 2022 – Feb 2023
<ul style="list-style-type: none">Led intern cohort group to develop novel methods of resource delivery to wildland firefighters in CADAssisted with beyond LOS testing of autonomous aerial drones using PythonPresented research findings to senior and mid-level NASA staff members outlining directions for future research	

PROJECTS

Sensing and grasping with Franka arm (ROS2, Python, CV, YOLO)	November 2025
<ul style="list-style-type: none">Integrated Intel RealSense D435i with a YOLO model to detect and correctly place model train cars onto a trackImplemented Python API to handle motion and scene planning using ROS2 MoveIt packageIteratively tested open loop control methods to adjust train bogies to perfectly align with the track	
Brick Catching Robot (ROS2, tf2, Python, Rviz2)	October 2025
<ul style="list-style-type: none">Programmed a holonomic robot to locate and catch a falling brick in rviz2	
Flipping Robot (ROS2, tf2, Python, Rviz2, Gazebo)	October 2025
<ul style="list-style-type: none">Programmed a robot to navigate and move via rotation about its y axis in Gazebo sim	
Robot on a string (Python, Coppeliasim)	November 2025
<ul style="list-style-type: none">Implemented a spring-damper impedance control simulation for a 6R UR5 manipulator using forward dynamics and Euler integration to model interactive end-effector motion	
Ion-Implantation Device (Python)	April 2022
<ul style="list-style-type: none">Designed and built a DC pulsed Ion Implantation facility within a plasma chamberConstructed langmuir probes from scratch for testing relevant plasma characteristics	

AWARDS

American Institute for Aeronautics and Astronautics(AIAA)	January 2023
<ul style="list-style-type: none">1st place winner of the SciTech Idea Challenge	
Virginia Microelectronics Consortium(VMEC)	August 2021
<ul style="list-style-type: none">Gold Award winner for research presentation on photolithography toppling angles	