

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
• 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
• Led intern cohort group to develop novel methods of resource delivery to wildland firefighters in CAD	
• Assisted with beyond LOS testing of autonomous aerial drones using Python	
• Presented 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
• Integrated Intel RealSense D435i with a YOLO model to detect and correctly place model train cars onto a track	
• Implemented Python API to handle motion and scene planning using ROS2 MoveIt package	
• Iteratively tested open loop control methods to adjust train bogies to perfectly align with the track	
Brick Catching Robot (ROS2,tf2,Python,Rviz2)	October 2025
• Programmed a holonomic robot to locate and catch a falling brick in rviz2	
Flipping Robot (ROS2,tf2,Python,Rviz2,Gazebo)	October 2025
• Programmed a robot to navigate and move via rotation about its y axis in Gazebo sim	
Robot on a string (Python,CoppeliaSim)	November 2025
• 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
• Designed and built a DC pulsed Ion Implantation facility within a plasma chamber	
• Constructed langmuir probes from scratch for testing relevant plasma characteristics	

AWARDS

American Institute for Aeronautics and Astronautics(AIAA)	January 2023
• 1st place winner of the SciTech Idea Challenge	
Virginia Microelectronics Consortium(VMEC)	August 2021
• Gold Award winner for research presentation on photolithography toppling angles	