Toussaint M. Pegues

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Education

Northwestern University, MS in Robotics — Sept 2025 – Present

California Institute of Technology, BS in Mechanical Engineering — 2018 – 2022

Skills

- **Robotics:** Computer vision, manipulation, motion planning, MoveIt 2, ROS 2, SLAM
- **Software Development:** C++, Git, Linux, Python
- **Mechanical and Electrical:** CAD (Creo, Onshape, SolidWorks), manual machining, design for assembly and manufacturing, 3D printing
- **Specific software and packages:** CoppeliaSim, Gazebo, OpenCV, ModernRobotics

Projects

Bug Catching Robot

- With a team of four, wrote ROS 2 packages to use a Franka Emika Robot arm to catch HexBugs
- Focused on motion design for continuous tracking of a moving object using ROS 2 and MoveIt
- Contributed to arena fabrication and camera location software calibration
- Tools Used: FER Arm, MoveIt 2, Onshape, OpenCV, Python, ROS 2 (Kilted)

Jenga Playing Robot

- With a team of four, designed and built a robot arm capable of playing Jenga
- Focused on vision system for determining location of 54 Jenga blocks in 3D space
- Contributed to arm design and motion planning
- Tools Used: manual machining and assembly, OpenCV, Python, ROS (Noetic), SolidWorks

Refrigerator Refresh

- Contributed to conversion of a Whirlpool refrigerator to KitchenAid brand specifications
- Developed methods of analyzing differences between bills of material to maximize part reuse
- Coordinated design and fabrication of new parts, modified parts, and tooling with in-house model shop, foreign suppliers, and domestic suppliers
- Supported manufacturing trials on site at Amana factory
- Tools Used: Creo, IBM RQM, PTC Windchill

Work Experience

Mechanical Structures Engineer, Whirlpool Corporation – Benton Harbor, MI — July 2022 – July 2025

- Drove Cost & Quality and Product Development projects
- Designed plastic and metal components for all refrigeration architectures
- Managed verification and validation testing for individual components, systems, and products
- Provided on-site support to international engineering colleagues for lab and model shop work, marketing review, and manufacturing evaluations