T. Miguel Pegues

Evanston, IL | toumigpeg@gmail.com | 214-918-9478 | tmpegues.github.io | linkedin.com/in/tmpegues
github.com/tmpegues

Education

Northwestern University, Evanston, IL — Sept 2025 – September 2026 (expected)
Master's of Science in Robotics

California Institute of Technology, Pasadena, CA — 2018 – 2022
Bachelor's of Science in Mechanical Engineering

Skills

- **Robotics:** Computer vision, manipulation, motion planning, MoveIt 2, ROS 2, SLAM
- **Software Development:** C, C++, Git, Linux, Python, unit testing, embedded programming
- **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

Wearable Flexible Extra Finger — January - March 2026

- Created an extra finger that allows the user to manipulate a wider range of objects than they can unaugmented
- Designed and fabricated human interfacing parts for sensors, motors, control boards, and the digit itself
- The flexible digit is easily controlled by a hand-made glove with integrated sensors
- The tentacle-like digit is capable of a wide range of grasping motions outside of typical human ability
- Tools Used: C, hand and machine sewing, Onshape, Python, ROS 2 (Kilted), 3D printing

Bug Catching Robot — December 2025

- With a team of four, wrote ROS 2 packages to use a Franka Emika Robot arm to catch HexBugs
- Designed motion 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 — Winter - Spring 2022

- With a team of four, designed and built a robot arm capable of playing Jenga
- Successfully designed system to locate 54 Jenga blocks in 3D space with millimeter precision
- Designed parts for arm and motions for arm
- Tools Used: manual machining and assembly, OpenCV, Python, ROS (Noetic), SolidWorks

Work Experience

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

- 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