

AEROSPACE ENGINEERING AND ENGINEERING MECHANICS  
ENGINEERING

RESEARCH OPPORTUNITIES FOR UNDERGRADUATE students

APPLICATION DEADLINE: April 3, 2026

PROJECT TITLE: AI-based robotics control

Physical Requirement :

In the Intelligent Robotics and Autonomous Systems Lab (IRAS Lab)

Project's Technical Skills Requirement :

Computer Science

Project's Available Positions : 1

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**Project Description**

Develop and implement AI-based control strategies for a robotic manipulator and gripper to track and capture moving objects. The position involves: (1) collecting and analyzing human motion data during reaching and grasping of dynamic targets; (2) training data-driven control models based on the collected datasets; (3) refining and validating these models within high-fidelity digital simulation environments; and (4) deploying the trained models to real robotic hardware using Sim-to-Real (Sim2Real) transfer techniques for experimental verification. Applicants should have introductory knowledge of robotics, either through coursework or hands-on experience. This position may lead to continued undergraduate research opportunities on a part-time basis within the IRAS Laboratory following the co-op term.