

Graduate Student Research Seminar

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Real Time Photogrammetry for Serial Manipulator Calibration

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3:00 pm (EST) – 132 Fluor Daniel Building



Abstract

Serial robotic manipulators are engineered to achieve high repeatability, yet their accuracy degrades over their operational lifetime due to mechanical wear, thermal drift, joint backlash, and elastic deflection. The error sources cause the robot's nominal kinematic model, typically parameterized by DH conventions, to deviate from its true geometric configuration. This leads to repetitive calibration to restore accuracy. This work aims to use a photogrammetry-based calibration framework that recovers the full 6 DOF end-effector pose from RGB images. And these recovered poses are used to calibrate the robot model in a continuous manner.



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