A Holistic Data Acquisition Framework for Robotic Surgical Skill Assessment

JOHNS HOPKINS UNIVERSITY

- Motivation
  - Robot-assisted minimally invasive surgery (RAMIS) is quickly becoming the prescribed method of treatment for many different routine and non-routine surgical procedures.
  - There is a need for a method of RAMIS skill assessment that is objective, time efficient, and cost efficient.

- Methods
  - Interface with Da Vinci API, high-bandwidth 3-axis accelerometer and force-sensing plate to collect time series data of kinematics and interaction forces

- Results
  - Functioning and validated system for collecting data
  - Software for data visualization and comparison

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