

Customizing Semi-Autonomous Nursing Robots using Human Expertise

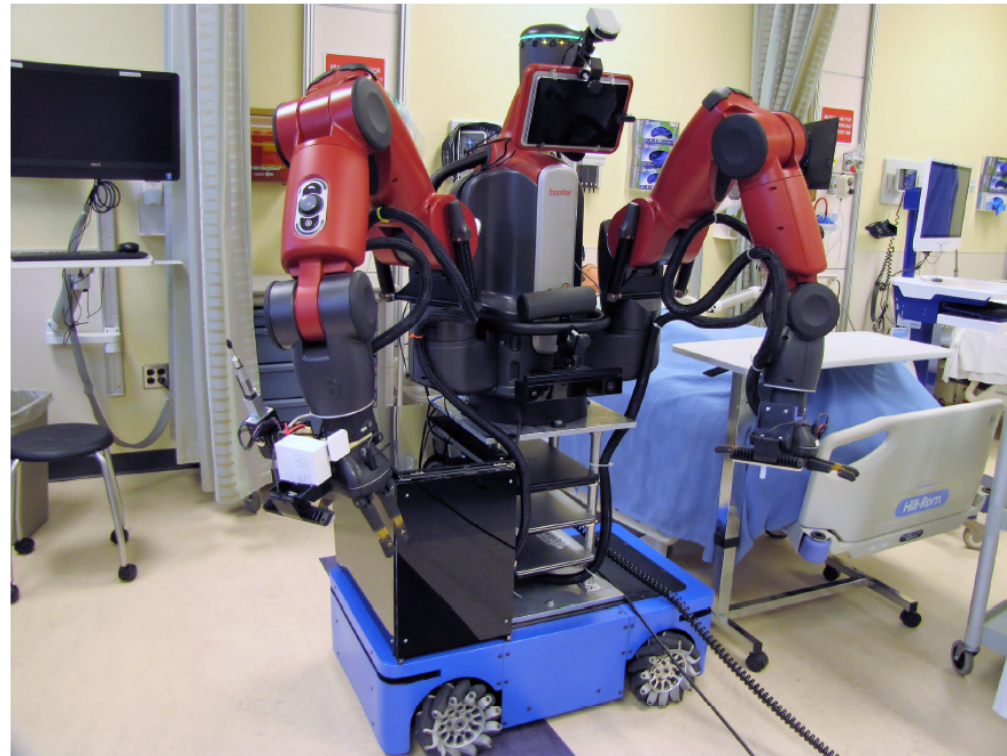
NRI #1830366

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Prior Work

- TRINA mobile manipulator
 - Bidirectional telepresent tele-action (BTPTA)
- 19/26 nursing tasks feasible...
 - But 50-100x slower than human



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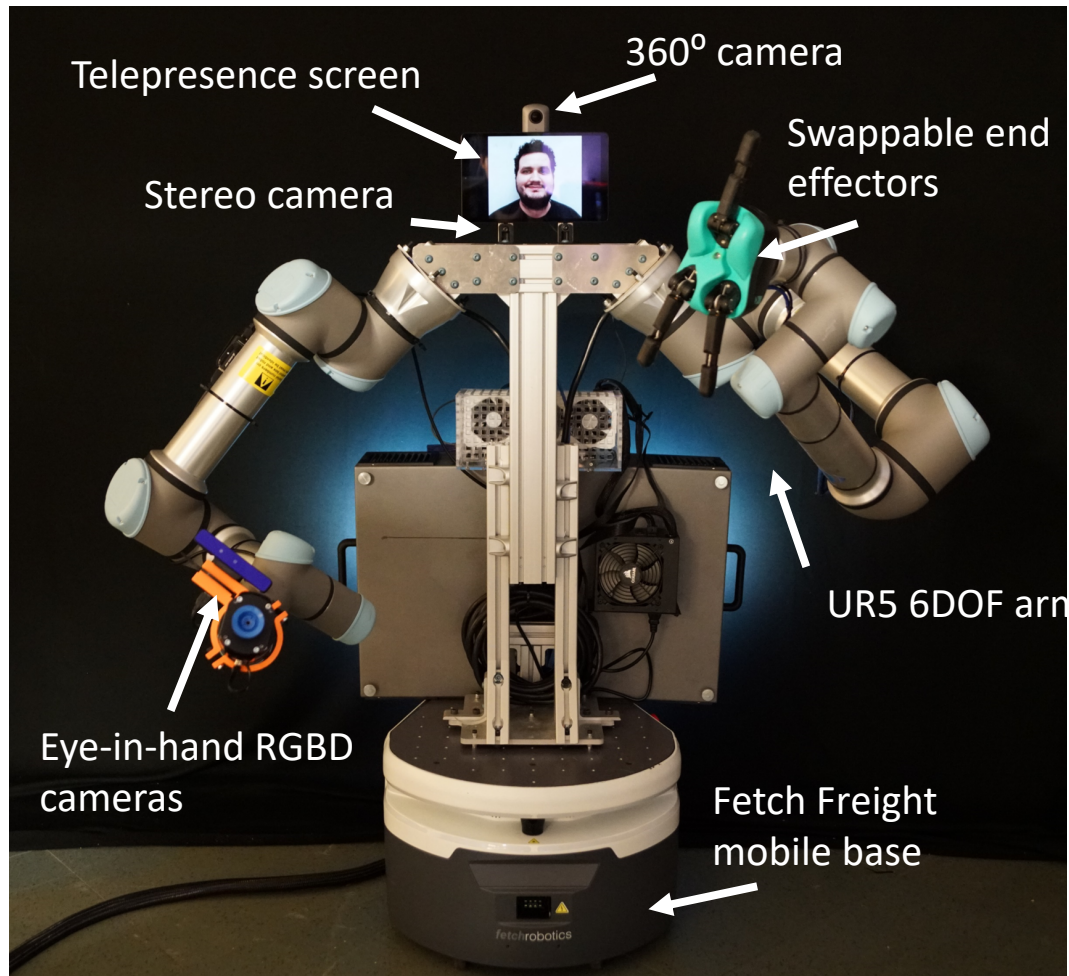


This Proposal

- Enable domain experts to *customize* a semi-autonomous UI
- *Offline*: Expert defines compound actions from (parameterized) primitives
- *Online*: predict useful compound actions using contextual probabilistic modeling
- Testing expert -> novice transfer: RNs customize UI for nursing students

Current Progress

- Fabricated 90% of TRINA 2.0 hardware



- Perception and autonomy primitives



In-hand 3D object scanning



- Autonomous button pressing
- Point-and-click navigation
- Point-and-click pick-and-place

Engaging undergraduates in research

