Dr. Sri Harsha Turlapati

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Research statement

My current research goal is to produce useful data from haptic demonstrations for learning algorithms in contact rich manipulation tasks. So far, we have used two modalities to do this - (i) sensorized tools and (ii) bilateral tele-operated robots.

Research Interests

Learning from haptic demonstrations, Mixed2Real frameworks, Geometry, Sim2Real

Some nice robots

Kinova Gen3, HAPTION Virtuose 6D TAO TREX, HEBI SEA, Kuka iiwa, PhaseSpace X2E Motion capture, PTI Pheonix Visualeyez, ATI Mini40, Quanser QPIDe

Select publications

Sensorized gripper for human demonstrations (Best paper award)
SIMM 2024

Tracing curves in the plane: Geometric-invariant learning from human demonstrations
PLoS ONE

Towards Haptic-Based Dual-Arm Manipulation
MDPI

Read more of my research at Google Scholar

Inventions

NTUitive TD (2025-275)
Fast tool changing add-ons for standard robotic gripper based on snap-fit mechanisms

NTUitive TD (2025-273)
Cable-Driven Haptic Master Tool With Identical Kinematic Design To RMIS Tools

U.S. Patent No. 12,220,814
Master-Slave Robot Arm Control System and Control Method
Issued: February 11, 2025

- **Assignees:** Delta Electronics Int'l Singapore Pte Ltd; Nanyang Technological University
- **Link:** US12220814B2

NTUitive TD (2024-462)
Adaptive Robotic Wrist for Versatile Object Handling

NTUitive TD (2022-273)
Identification of intrinsic friction and torque ripple for a robotic joint with integrated torque sensors

Education

NTU Singapore

PhD, Mechanical and Aerospace Engineering, 2022

- Topic: **Towards haptic intelligence in robots by learning from demonstration**
- Advisor: Domenico Campolo

Experience

Singapore University of Social Sciences

Lecturer — **Mar 2026 - present**

NTU Singapore

Research Fellow — **Aug 2022-Mar 2026**
Research Associate — **Mar-Aug 2022**
Teaching Assistant,
MA2009 (Introduction to Electrical Circuits & Electronic Devices) — **2022-25**
MA2011 (MECHATRONICS SYSTEMS INTERFACING) — **2022-25**

IIIT Hyderabad, INDIA

Research Assistant — **2015 - 2017**
Includes current M.S research, coursework and research/consulting projects.

Teaching Assistant — **2016**
Head Teaching Assistant, Digital Logic and Processors

Awards

TEDxNTU

Nanyang award for Teamwork — **2019**
Mr and Mrs Kwok Chin Yan Award for Student Initiative Award — **2019**

Multidisciplinary Team "MDT" project funding - SGD 10,000 — **2025**
RoboKetchen : Robotic Kitchenware with Efficient Tools & Collaborative Human Engagement

Volunteering

Committee member, **Tan Seow Chiap - POWERS Scholarship** — **2024-25**
Research Fellow representative, **SWE@NTU** — **2023-24**
Advisor, **TEDxNTU** — **2021**
Chairman, **TEDxNTU** — **2020**