Dr. Sri Harsha Turlapati (currently Research Fellow @ Schaeffler-NTU Corporate Lab)

Contact Information	#13-03, 101 Petir Rd Singapore 678272	*Voice:* +65 8306 9440 *E-mail:* sriharsha.turlapati@ntu.edu.sg *Website*

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

Skills

C, C++, Python, Java, MATLAB, Blender, ROS, Solidworks, MSC Adams, PyBullet, OpenCV

Robots and equipment I have worked with

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

Select publications

Planning for Quasi-Static Manipulation Tasks via an Intrinsic Haptic Metric: A Book Insertion Case Study
IEEE RAL 2025

Robotic valve turning: axial misalignment estimation from reaction torques
IROS 2024

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

Identification of Intrinsic Friction and Torque Ripple for a Robotic Joint with Integrated Torque Sensors with Application to Wheel-Bearing Characterization
MDPI

Fast Kinematic Re-Calibration for Industrial Robot Arms
MDPI

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

NTU Singapore

Research Fellow **Aug 2022-present**
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

Coursework (NTU)

Engineering	Manufacturing Control & Automation Prototype & Rapid Prototyping	Robotics & Intelligent Sensors Space Environment & Spacecraft Systems Engineering
Teaching	University Teaching for Teaching Assistants	

Coursework (IIIT)

Robotics	Mobile Robotics	Design of Mechanisms
	Intro to Robotics	Computer Vision
	Digital Image Processing	Statistical Methods in AI
	Optimization Methods	Machine Learning
Electronics	Embedded Hardware Design	Signals and Systems
	Electromagnetic theory and Applications	Digital Signal Processing

Volunteering

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