

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

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| 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 Virtuouse 6D TAO TREX, HEBI SEA, Kuka iiwa, PhaseSpace X2E Motion capture, PTI Pheonix Visualeyex, ATI Mini40, Quanser QPIDE | |
| SELECT PUBLICATIONS | <p>Planning for Quasi-Static Manipulation Tasks via an Intrinsic Haptic Metric: A Book Insertion Case Study <i>IEEE RAL 2025</i></p> <p>Robotic valve turning: axial misalignment estimation from reaction torques <i>IROS 2024</i></p> <p>Sensorized gripper for human demonstrations (Best paper award) <i>SIMM 2024</i></p> <p>Identification of Intrinsic Friction and Torque Ripple for a Robotic Joint with Integrated Torque Sensors with Application to Wheel-Bearing Characterization <i>MDPI</i></p> <p>Fast Kinematic Re-Calibration for Industrial Robot Arms <i>MDPI</i></p> <p>Tracing curves in the plane: Geometric-invariant learning from human demonstrations <i>PLoS ONE</i></p> <p>Towards Haptic-Based Dual-Arm Manipulation <i>MDPI</i></p> <p>Read more of my research at Google Scholar</p> | |
| 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

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| COURSEWORK (IIIT) | Robotics | Mobile Robotics Intro to Robotics Digital Image Processing Optimization Methods | Design of Mechanisms Computer Vision Statistical Methods in AI Machine Learning |
| | Electronics | Embedded Hardware Design Electromagnetic theory and Applications | Signals and Systems Digital Signal Processing |
| VOLUNTEERING | <i>Committee member, Tan Seow Chiap - POWERS Scholarship</i> | | 2024-25 |
| | <i>Research Fellow representative, SWE@NTU</i> | | 2023-24 |
| | <i>Advisor, TEDxNTU</i> | | 2021 |
| | <i>Chairman, TEDxNTU</i> | | 2020 |