J-Anne Yow

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Education

Nanyang Technological University, Ph.D. in Mechanical Engineering — Sept 2021 – present

- **Supervisor:** Prof Ang Wei Tech
- **Proposed Dissertation:** Enhancing Human-Robot Interaction for Personalised Robot Behaviour in Assistive Feeding
- **Research Interests:** Human-Robot Interaction, Machine Learning, Foundation Models, Continual Learning

Nanyang Technological University, BE in Mechanical Engineering with a Second Major in Business — Aug 2017 – May 2021

- **GPA:** 4.92/5.00, Dean's List every Academic Year
- **Awards:** Dr Leung Shiu Kee Gold Medal Award, ASEAN Undergraduate Scholarship

Hwa Chong Institution, A-Levels — Jan 2015 – Nov 2016

- **Awards:** Hwa Chong Diploma with Distinction, ASEAN Scholarship

Research Projects

Robot-Assisted Feeding — 2022 – present

- Implementing an end-to-end pipeline for robot-assisted feeding, including bite sequencing, food acquisition with a spoon, and transferring food to the user.
- Developing a personalized assistive feeding system that adapts to user preferences and needs, leveraging language corrections to modify robot actions.
- Developing a goal-conditioned scooping policy to scoop a target amount of food while considering different food properties.
- Exploring the integration of foundation models in robotics for more adaptive and intelligent robots.

Grasping in Clutter — 2020 – 2023

- Developed a shared autonomy framework to decide when and what to query users in scenarios where uncertainty is high, enabling more effective human-robot collaboration.
- Developed a point-and-click interface for robotic grasping in cluttered environments by generating better grasp poses through object segmentation.

Work Experience

Research Assistant, Rehabilitation Research Institute of Singapore – Singapore — Aug 2021 – present

- Spearheaded the Robot-Assisted Feeding project, focusing on developing a personalized assistive feeding system.
- Mentored seven undergraduate students on final year projects, guiding them through the research process and providing technical support.
- Assisted in preparing funding proposals to support the project.

SaaS Sales Operations Intern, ByteDance – Singapore — May 2020 – July 2020

- Built and optimized dashboards for the Lark APAC team, improving data-driven decision-making and operational insights.
- Enhanced data quality and integrity in Salesforce.com, streamlining processes and ensuring consistency across regional teams.
- Conducted analysis on daily active user (DAU) trends and tenant health scores, providing product-market fit understanding and insights for the go-to-market strategy.

Engineering Intern, Oishii – New Jersey, USA — Jan 2020 – Mar 2020

- Oversaw a project which involved integrating farm systems and forecasting future infrastructure requirements to minimize operational risks.

- Evaluated and built communication pathways of sensors and actuators inside the world's largest indoor strawberry vertical farms to automate the farm.
- Coordinated and collaborated with contractors of different expertise to integrate systems and solve current infrastructure limitations.

Journal Publications

ExTraCT - Explainable Trajectory Corrections for language-based human-robot interaction using Textual feature descriptions Sept 2024

J-Anne Yow, Neha P Garg, Manoj Ramanathan, Wei Tech Ang

Frontiers in Robotics and AI

Shared Autonomy of a Robotic Manipulator for Grasping under Human Intent Uncertainty using POMDPs Nov 2023

J-Anne Yow, Neha P Garg, Wei Tech Ang

IEEE Transactions on Robotics

Other Publications

Adaptive Scooping in Simulation for Assistive Feeding: Meeting User Preferences in Bite Size Oct 2024

J-Anne Yow, Neha P Garg, Wei Tech Ang

Workshop on Interactive Robots and AI for Healthcare, IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)

Service

Reviewer: IEEE Robotics and Automation Letters

Skills

Programming Languages: Python, C/C++, R, LaTeX, SQL

Robotics: Machine Learning, ROS, MuJoCo, Computer Vision, Linux

Languages: English, Chinese, Malay