EOI for Human-Robot Collaboration workshop at OzCHI2022

My name is Yiyuan Wang. I am a second-year PhD student in the Urban Interface Lab at the University of Sydney. My research interests lie in human-robot interaction, human-computing interaction, and human-centred interaction design. My current research explores new interfaces to support interactions between autonomous vehicles and pedestrians.

In the last few years, external human-machine interfaces (eHMIs) have been designed to support the interaction between autonomous vehicles (AVs) and pedestrians. eHMIs convey AVs' intent and awareness to nearby pedestrians, compensating for the lack of driver cues (e.g. gestures, facial expressions). The majority of these efforts focus on improving the safety of pedestrians on regulated roads, for example, by displaying crossing suggestions or information related to AVs' status, while the social aspects and their impact on the pedestrian experience were seldom explored. Therefore, my research aims to support the social connection between AVs and pedestrians, particularly in the context of shared spaces (precincts where vehicles and pedestrians share the areas) where traffic rules are removed and AVs will need to follow social norms when navigating among pedestrians. To support this, my most recent research investigates the emotional aspects of AV-pedestrian interaction, with the goal of improving pedestrians' perception of AVs' sociability and their experience during the interaction, and finally making shared spaces a more cohesive and friendly environment.