

Interpersonal coordination for collision avoidance during human-cyclist interactions in mixed-reality

Project description: When walking in shared traffic spaces, the nearby presence and movement of other pedestrians and cyclists can prompt individuals to make speed and path adjustments to avoid potential collisions. The study of such collision avoidance strategies in virtual settings allows for the controlled scaling of environmental complexity that are present in a real situation, while ensuring pedestrians safety. This project aims at (1) developing a mixed-reality experimental set-up containing virtual cyclists and further environmental objects, which (2) enables the ecologically valid but controlled investigation of pedestrian-cyclist interactions, and at (3) understanding the influence of cyclist movements on human walking. On this account, the collision avoidance behavior of pedestrians crossing the path of a moving virtual cyclist avatar will be examined.

Cooperation partner: Prof. Dr.-Ing. Monika Sester & Vinu Kamalasanan (Institute of Cartography and Geoinformatics)

Project period: since 2022

Keywords: Joint action, collision avoidance, human locomotion, virtual reality