

Toward Pedestrian-oriented Smart Cities

Data

- Ubiquitous Collection
- Virtual Reality (VR) Experiments
- Automated Vehicle (AV) Sensors

Models

- Machine Learning
- Data-driven Behavioural Modelling
- Model Interpretation

Challenges

- Data Labelling
- Futuristic Scenarios
- Lack of Pedestrian-oriented Approaches
- Pedestrian Behaviour in the New Context

Dissertation Articles

Chapter 3

- Location-aware pervasive Wi-Fi networks for passive data collection
- Semi-supervised neural network to use both labelled and unlabelled data
- Detecting, counting and monitoring pedestrians, bicycles and vehicles

Chapter 5

- Large-scale virtual reality data collection campaign
- Data-driven survival model for wait time analysis
- Machine learning model interpretability for policy recommendation
- Assessing pedestrian behaviour in futuristic scenarios

Chapter 4

- Virtual reality as a tool for data collection in a controlled environment
- Survival model for wait time analysis
- Evaluating the effect of smartphone distraction on pedestrian crossing behaviour

Chapter 6

- Overview of automated vehicle open-access datasets
- Virtual reality as a complementary tool to automated vehicle data
- Data-driven time-series analysis for pedestrian trajectory prediction
- Predicting pedestrian trajectory in futuristic scenarios