AI Tech Circle for Smart City

Abstract: In this talk, I am delight to report the process of establishment of the state key lab of Internet of Things for Smart City (IoTSC) at the University of Macau. In this connection, I would like to introduce the ICT Technology Circle for the IoTSC, especially the AI technologies in related to (1) IoT/Sensors in which the smart sensors must be designed and deployed in the area concerned; (2) Edge computing where the containers are used for the data/task migrations where the reinforcement learning technology is applied when the search space become exponentially large; (3) Knowledge Graph establishment and entity relation extractions in Natural Language Processing, aim to identify relation facts for pairs of entities in raw sentences to construct relation triples such as [*Arthur Lee, place_born, Memphis*], which is a fundamental work of many high-level NLP tasks and other related tasks in smart city research. Although nowadays, relation extraction has been well studied with lexical analysis, grammar analysis, and semantic analysis. However, current works still suffer from low accuracy of features clustering in complex scenarios and a high cost of human-labeled training data in large-scale relation extraction. The former problem is critical for the accuracy of relation extraction, and the latter is a big challenge for large-scale relation extraction.