

**CHENNAI – PONDICHERRY**

**A Meta Path Based Method For Entity Set Expansion In Knowledge Graph**

**ABSTRACT:**

Entity Set Expansion (ESE) is the problem that expands a small set of seed entities into a more complete set, entities of which have common traits. As a popular data mining task, ESE has been widely used in many applications, such as dictionary construction and query suggestion. Existing ESE methods mainly utilize text and Web information. That is, the intrinsic relation among entities is inferred from their occurrences in text or Web. With the surge of knowledge graph in recent years, it is possible to extend entities according to their occurrences in knowledge graph. In this paper, we consider the knowledge graph as a heterogeneous information network (HIN) that contains different types of objects and links, and propose a novel method, called MP\_ESE, to extend entities. MP\_ESE employs meta paths, a relation sequence connecting entities, to capture the implicit common traits of seed entities. An automatic meta path generation method, called SMPG,has been designed to exploit the potential relations among entities. Heuristic and PU learning methods are employed to learn the weights of extracted meta paths. With these generated and weighted meta paths, MP\_ESE can effectively extend entities. Comprehensive experiments on real datasets show the effectiveness and efficiency of MP\_ESE