In this paper, we propose a new method, association rules mining for Named Entity Recognition (NER) and co-reference resolution. The method uses several morphological and lexical features such as Pronoun Class (PC) and Name Class (NC), String Similarity (SP) and Position (P) in the text, into a vector of attributes. Applied to a corpus of newspaper in the Indonesian language, the method outperforms state-of-the-art maximum entropy method in name entity recognition and is comparable with state-of-the-art machine-learning methods, decision tree, for co-reference resolution.

**Keywords:** association rules mining; co-reference resolution; Named Entity Recognition; NER; entity equivalence; Indonesian language; Indonesia; information extraction; data mining; information retrieval