Entity Enhanced Attention Graph-Based Passages Retrieval

Lucas Albarede$^{1,2}$, Lorraine Goeuriot$^1$, Philippe Mulhem$^1$, Claude Le Pape-Gardeux$^2$, Sylvain Marié$^2$ and Trinidad Chardin-Segui$^2$

$^1$Univ. Grenoble Alpes, CNRS, Grenoble INP, LIG, Grenoble, France
$^2$Schneider Electric Industries SAS

Abstract
Passage retrieval is crucial in specialized domains where documents are long and complex, such as patents, legal documents, scientific reports, etc. We explore in this paper how the integration of Entities and passages in Heterogeneous Attention Graph Models can improve passage retrieval. We use the two passage retrieval architectures based on re-ranking proposed at ECIR 2022.

We experiment our proposal on the TREC CAR Y3 Passage Retrieval Task. The results obtained show an improvement over state-of-the-art techniques and proves the effectiveness of the approach. Our experiments also show the importance of using adequate parameters for such approach.

Keywords
Graph attention networks, Passage Retrieval, Entity representation