先端科学技術研究科　修士論文要旨

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要旨

Recently, the use of pretrained language models (PLMs) as soft knowledge bases has gained growing interest, sparking the development of knowledge probes to evaluate their factual knowledge retrieval capabilities. However, existing knowledge probes for generative PLMs that support multi-token entities exhibit quadratic time complexity $O(n^2)$, limiting the size of knowledge graphs used for probing. To address this, we propose DEcoder Embedding-based Relational (DEER) probe, utilizing embedding vectors extracted from generative PLMs. DEER probe achieves effective time complexity of linear order O(n), supports rank-based evaluation metrics including Hit@k, handles multi-token entity names and enables probing whilst disambiguation of homographic tail-enity names. We empirically show that DEER-probe correlates with existing knowledge probes, validating its probing capability, and we demonstrate the practical benefits of its improved scalability.