Literature Review on ACL 2023 Demo Paper

OpenICL: An Open-Source Framework for In-context Learning

- Motivation：

  In-context learning is a complex process involves two primary steps: Retrieval and Inference

  - Current implementations of ICL methods involves diverse retrieval and inference method, and **involves varying pre-processing requirements for different models, datasets and tasks**. → Therefore, it is necessary to provide a unified framework for ICL.
- Contribution：

  1. Provide a unified framework for ICL that includes a wide range of ICL methods, LLMs and tasks, requiring as little as a few lines of code to use and paving the way for more extensions in the future
  2. (one application of ICL is to evaluate the learning ability of LLMs) OpenICL could be used to evaluate LLMs.

UKP-SQuARE v3: A Platform for Multi-Agent QA Research

- Motivation：A QA system equipped with multi-agents generally provides more effective responses to various questions (compared to previous multi-dataset models). Presently, multi-agent QA systems can be categorized into three main types: agent selection, early fusion of agents, and late fusion of agents，which are implemented under different frameworks. → Therefore, it is necessary to provide a unified framework for multi-agent QA.
- Contribution:

  1. Provide a unified framework for multi-agent QA research, which supports three families of multi-agent systems: i) Agent selection, ii) early-fusion of agents, iii) late-fusion of agents.
  2. Conduct systematic experiments to evaluate the inference speed and **discuss performance vs. speed trade-off** compared to multi-dataset models.

DeepPavlov Dream: Platform for Building Generative AI Assistants

> 这篇和我们的Watermark Framework不太类似，主要贡献是提供了一个从头开始构建一个对话Agent的Pipeline系统，支持各种组件的直接使用，模块化设计。**这篇的idea可以作为后续其它system方面文章的inspiration**.

PRIMEQA: The Prime Repository for State-of-the-Art Multilingual Question Answering Research and Development

- Motivation: There are many QA SOTA methods currently. → Therefore, it is necessary to build a easily-used toolkit that supports these methods. (Weak)
- Contribution:

  1. Build a toolkit that supports various SOTA QA methods, including training, inference and performance evaluation.

  (文中用词可以借鉴：**for both academic and commerical usage**)

OpenSLU: A Unified, Modularized, and Extensible Toolkit for Spoken Language Understanding

- Motivation: Currently, there are various SLU models that are commonly used, but are implemented under different frameworks. → Therefore, it is necessary to build a toolkit that unifies these models, allowing convenient conduction of experiment for researchers.
- Contribution:
    1. build a toolkit that unifies 10 SLU models for both single-intent and multi-intent scenarios, which support both non-pretriained and pretrained models simultaneously.