11.14 周报

1. Entailment bank

(1) step-wise + all-at once 两份代码跑通 + 获得结果（baseline) 发现效果优于论文中 report ？

(2) 针对 general to longer proofs 的问题，重新划分 EB 数据集+ 跑通了 step-wise 的 baseline +测试结果（task1 and task2)

(3) 计划：加入反向推理的 text-based 方法，在新的 split 上进行实验（进行中）

2. 按照如下分类，阅读+整理**结合语言模型进行定理证明**的方法：

（1）proof-step + proof search （ fine-tuned LLM models provide single-step proof actions coupled with search algorithms to find the complete proofs)

代表方法： GPT-f, Hammer 及以其为基础的一系列方法：

PACT ，Expert Iteration ： incorporate supplemental pre-training tasks like theorem naming to enhance the policy models reasoning ability.

HTPS： applies Monte-Carlo tree search coupled with online training to optimize the exploration of the proof space

DT-Solver: enhances search efficiency by dynamically adjusting search budgets to accommodate varying levels of state complexity

Thor: blends traditional Automated Theorem Provers (ATPs) with neural policy models to prove theorems in a neural-symbolic manner

Magnushammer: augments Thor's performance by integrating premise selection, thereby boosting the performance of rule-based ATPs.

（2）generate entire proof all-at once(Another paradigm leverages the coding capabilities of LLM to construct entire proofs in a single decoding process) 研究较少，现有方法：Bladur(error repair), DSP, Subgoals-decompose