

2021学期汇报

- 学生：杨紫荆
- 导师：林欣

- 研究内容

- 任务1：电商环境中竞品与搭配品关系预测

- 2020.9-2020.12: AAAI reject

- 2021.1 submit to KBS

- 任务2：基于模拟用户的多轮会话推荐系统

- 2021.2 submit to IJCNN

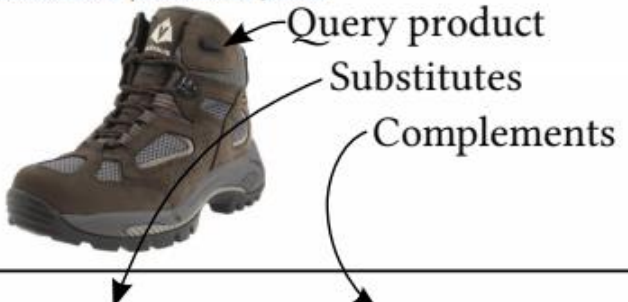
- 未来方向

- 任务3：基于自然语言交互的会话推荐系统

- 2021.5 submit to CIKM \ 2021.7 submit to TKDE

任务1：电商环境中竞品与搭配品关系预测


Viewing Recommendations for:
Vasque Men's Breeze GTX Waterproof Hiking Boot, Beluga/Gunmetal, 7 M
[view on Amazon](#) | [view another product](#)



Query product
Substitutes
Complements


Substitutes:

Hi-Tec Men's Quest Hike WP Hiking Boot
[view on Amazon](#) | [view recommendations for this product](#)



Explanatory sentence and fragment:
I have the feeling that these will last many times longer than my old made in China Newboks.
Microcategory: 13 | Confidence: 0.000243


Teva Men's Raith Mid eVent Waterproof Hiking Boot
[view on Amazon](#) | [view recommendations for this product](#)



Explanatory sentence and fragment:
Well worth the extra cost versus a plain old sock that doesn't fit in the first place.
Microcategory: 14 | Confidence: 0.000106


Complements:

Thorlo Men's Coolmax Lt Hiker Crew Sock
[view on Amazon](#) | [view recommendations for this product](#)



Explanatory sentence and fragment:
Well worth the extra cost versus a plain old sock that doesn't fit in the first place.
Microcategory: 14 | Confidence: 0.000106

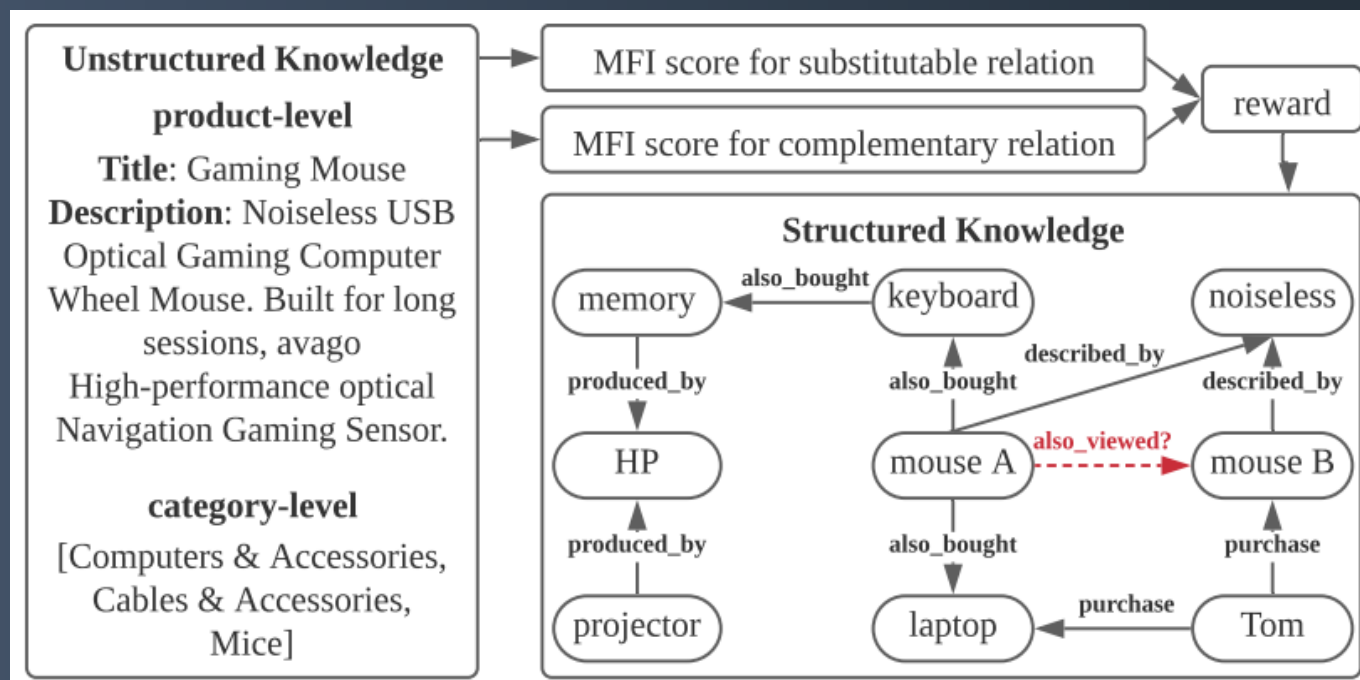
Wigwam Men's Hiking/Outdoor Pro Length Sock
[view on Amazon](#) | [view recommendations for this product](#)



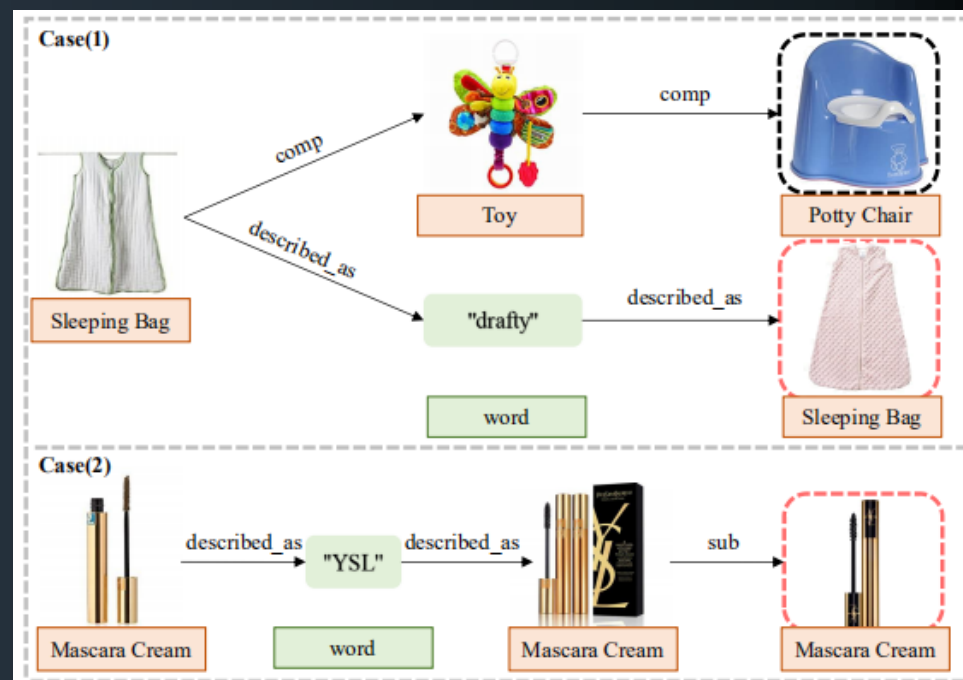
- 任务定义：给出商品i，找到与商品i具有竞品关系和搭配品关系的商品，并给出可解释说明
- 数据集：Amazon电商数据集
- 测评标准：
 - NDCG
 - Recall
 - Hit Ratio
 - Precision

任务1：电商环境中竞品与搭配品关系预测

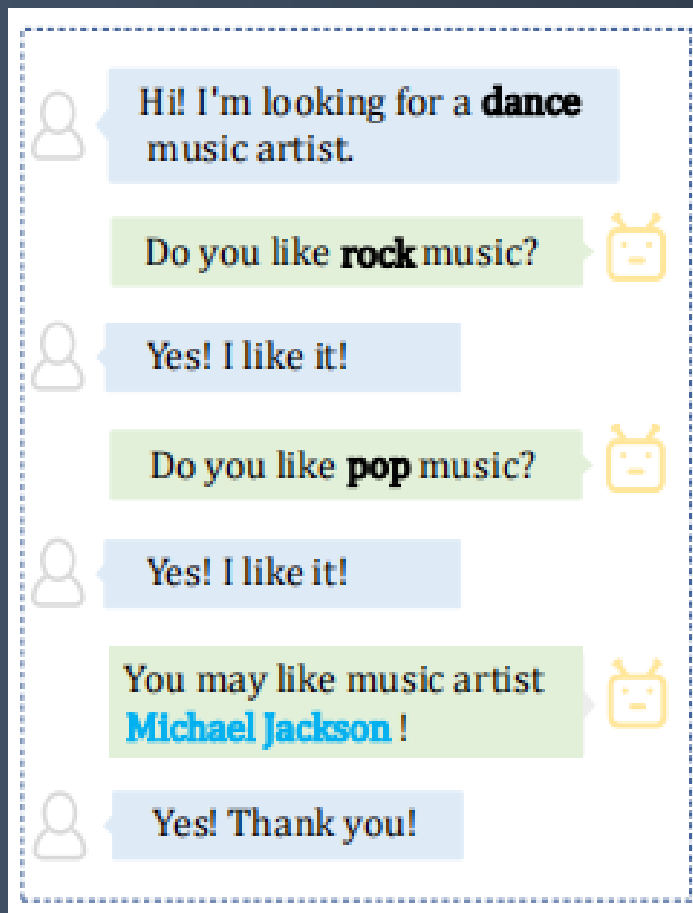
研究方案



预期成果



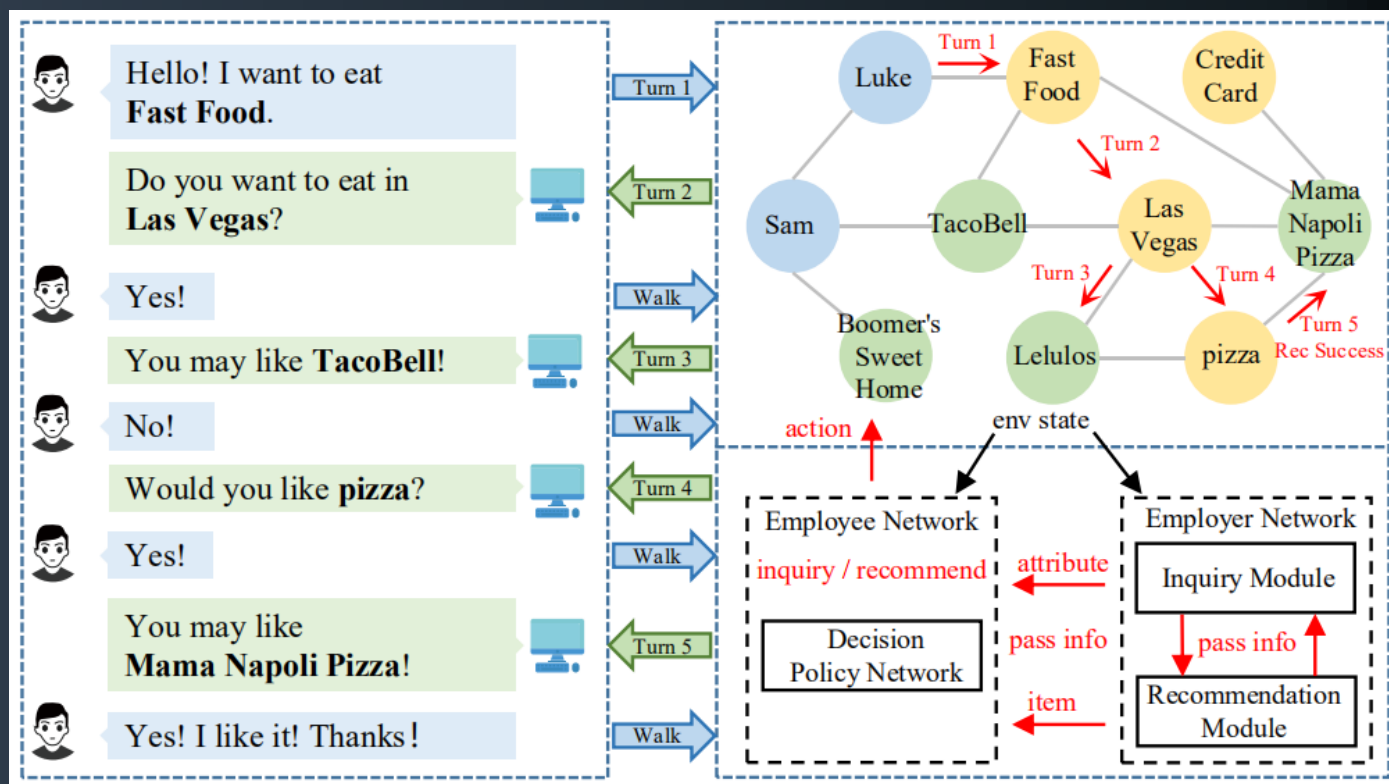
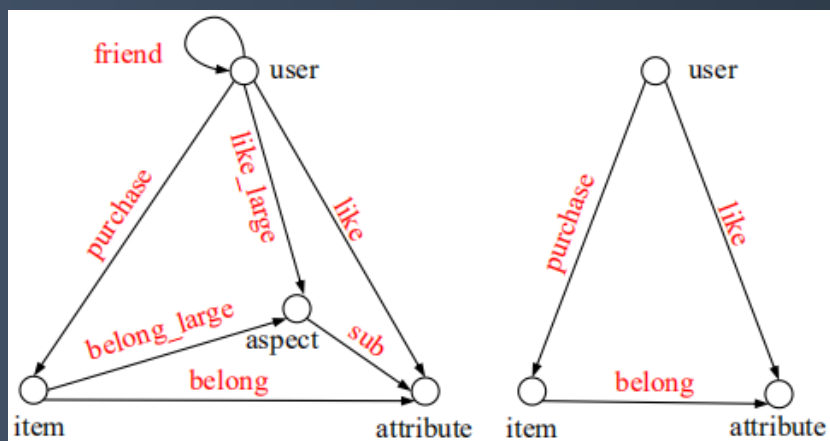
任务2：基于模拟用户的多轮会话推荐系统



- 任务定义：与模拟用户最多进行T轮交互，每轮可以询问用户对属性的偏好或进行推荐，达到最大交互次数或成功推荐则会话结束。
- 数据集：Yelp \ LastFM
- 测评标准： t 轮推荐成功率Success Rate (SR@t) , 平均推荐轮数Average Turns (AT)

任务2：基于模拟用户的多轮会话推荐系统

研究方案:



任务3：基于自然语言交互的会话推荐系统

Conversation

(1).**Bot** : What are you up to?

(2).**User** : I'm looking at the photo album. I **miss** the old days.

...

(6).**User** : That's true. I want to be a kid again. By the way, are there any movies about **childhood**? Although I can't go back, it's good to look at other people's childhood memories.

(7).**Bot** : How about *Father-son*? I recommend it to you. I once saw it on TV by chance. It is very impressive and wonderful.

(8).**User** : I just saw this movie, it's really good, the documentary style of this movie takes the childhood memories assaulting me, ha ha, I have some nostalgia for those childhood **toys**, I really miss them.

(9).**Bot** : Well, toys are children's friends, **children's** childhood without toys will be incomplete.

(10).**User** : Yeah, recommend me a movie about children's childhood.

(11).**Bot** : I recommend *The Naked Childhood*, which is a peaceful film, telling the story of border children step-by-step. Just see it.



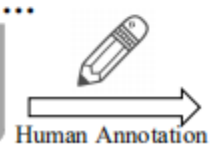
Reviews



Retrieval



Candidates



Human Annotation



Conversation

- 任务定义：基于自然语言与用户进行交互。
- 数据集：TG-Redial
- 测评标准：
 - 推荐任务（NDCG、MRR）
 - 主题预测任务（Hit）
 - 会话生成任务（Blue, Distinct）

任务3：基于自然语言交互的会话推荐系统

- 研究计划:
 - 将会话中涉及到的实体作为图中推理的种子实体，基于显式的策略进行扩展。得到的相关实体知识作用于下游的会话任务，推荐任务，主题预测任务和会话任务
- 研究进度：
 - 完成构图的基础任务 (ddl : 2021/3/25)
 - 在推荐任务上达到了超过baseline的效果 (ddl : 2021/4/5)
 - 在topic prediction任务上提升模型效果 (ddl : 2021/4/15)
 - 在generation任务上提升模型效果 (ddl : 2021/4/25)

Thanks
