HUAWEI

ZOIZ LABS 全球软件技术峰会

Huawei Scientist Committee

Edinburgh Coffee House

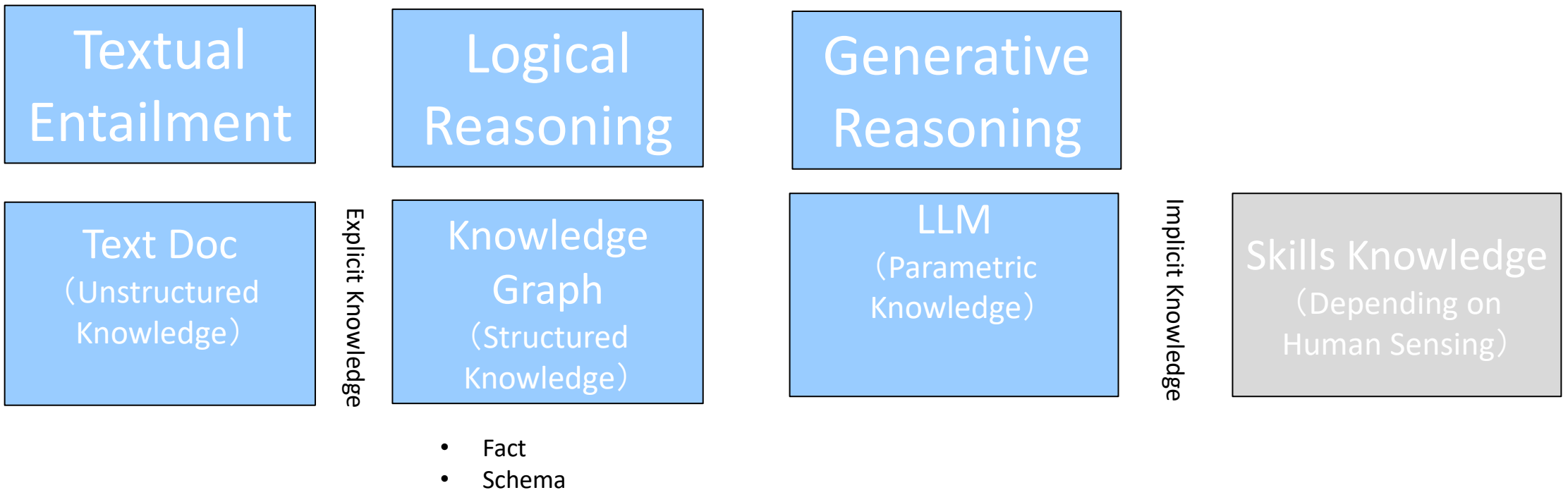
Session: Knowledge Computing

Jeff Pan

(Chair of Knowledge Graph Group at Alan Turing Institute)

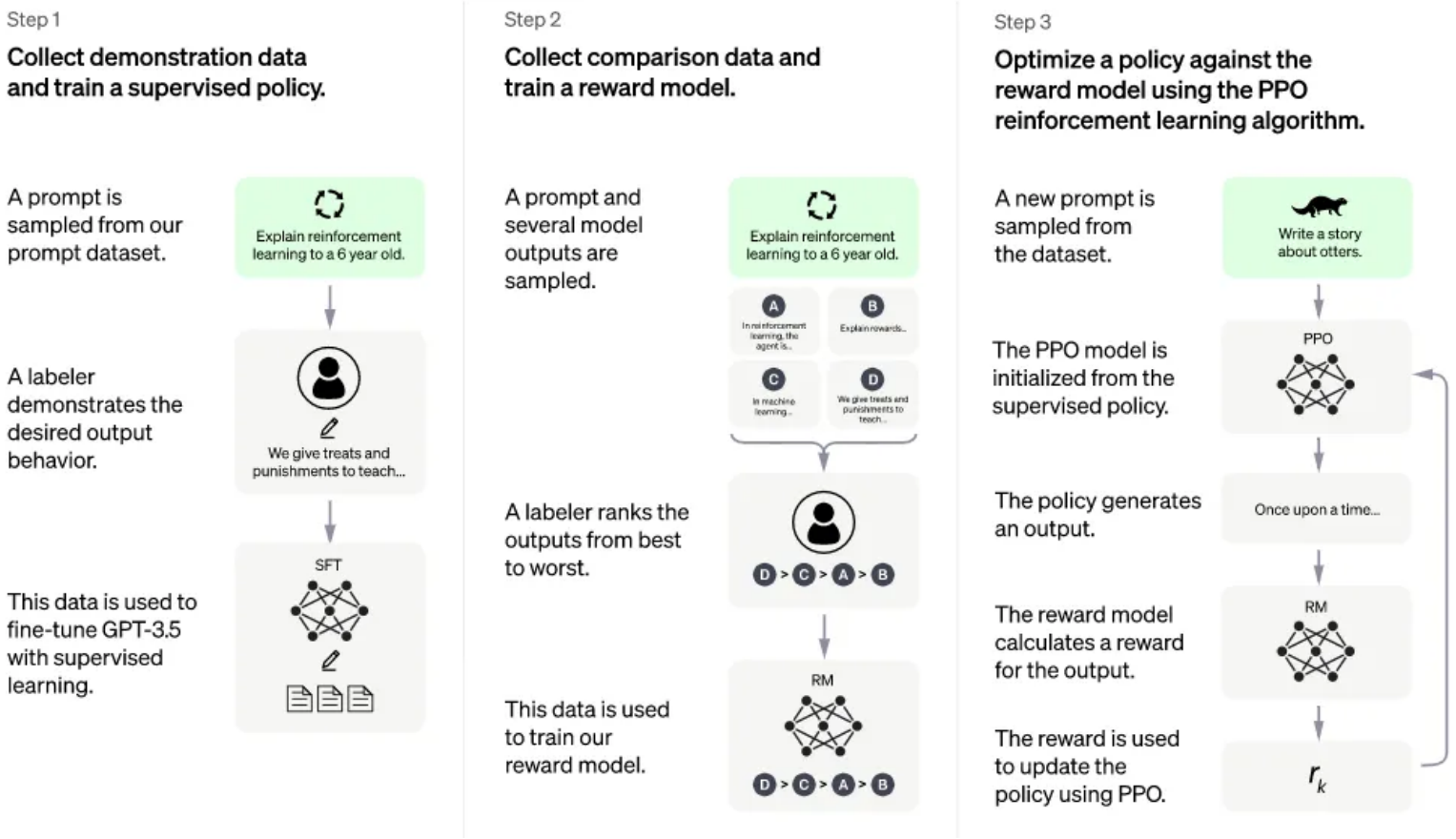
What is Knowledge?

- **Verified** belief, opinion, and practical skills (such as playing guitar)
- How to classify knowledge?



Large Language Model (implicit knowledge)

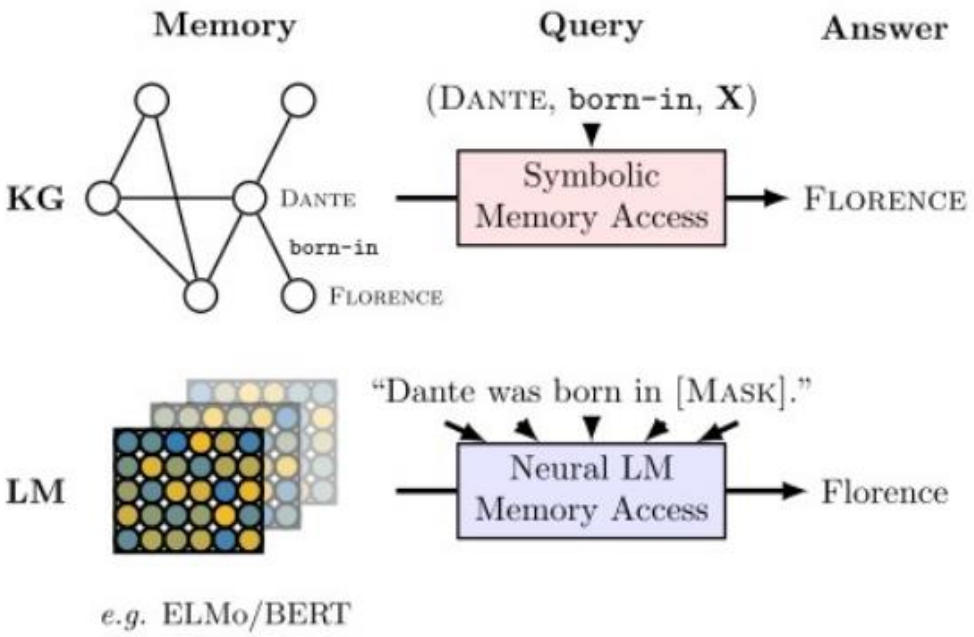
Highlight: Strong associative reasoning ability, able to engage in dialogue, automatically generate text and code, and multitask everything, shifting AI from "behind the scenes" to “spotlights“.



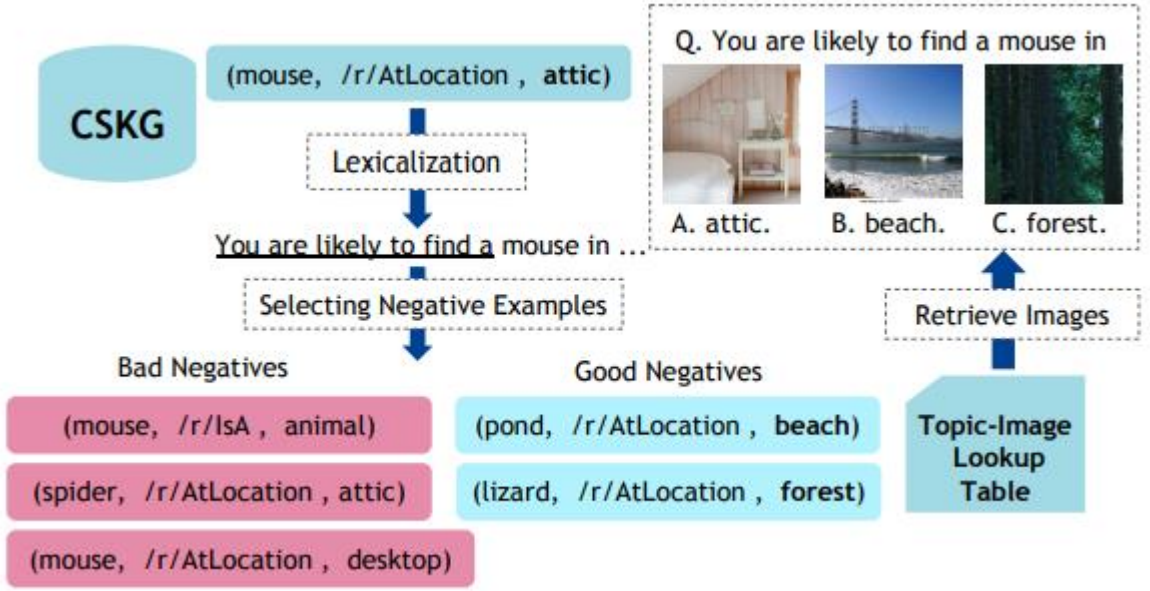
Speedup the Construction of Knowledge Graphs

- Contain more knowledge than people previously expect
- Reduce the need of training data for the knowledge extraction task

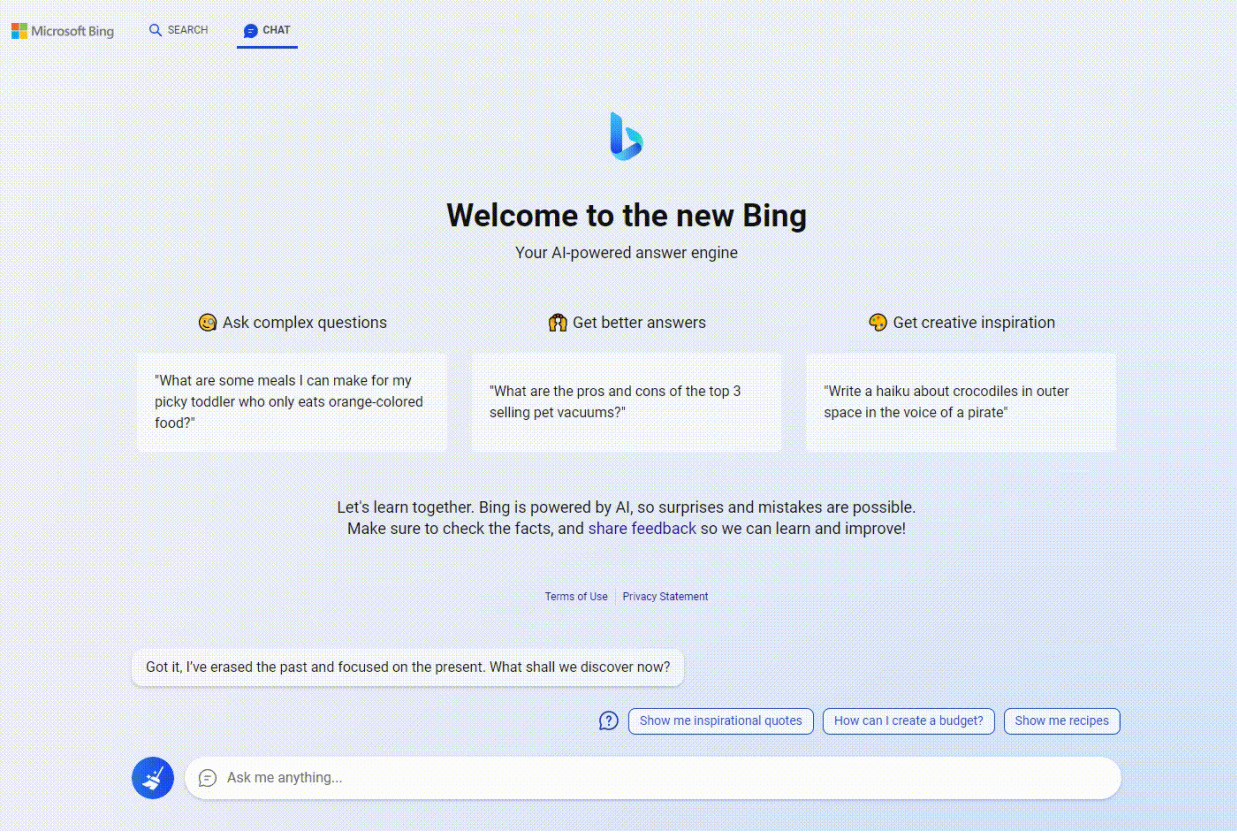
Language Models as Knowledge Bases?
(Meta, EMNLP2019)

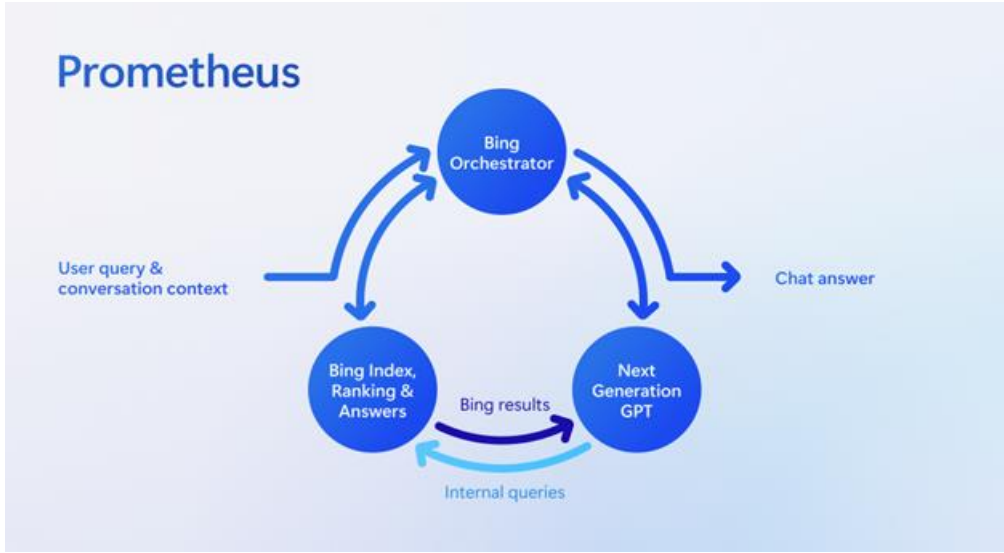


Are Visual-Linguistic Models Commonsense Knowledge Bases?
(ICCL 2022)



Generative Search Engine





Today's Session: Two Technologies to Revolutionise NLP/KC

- **Quantum NLP**
- **Large Language Models**

Hybrid Recurrent Architectures for Quantum-Classical NLP

Going beyond the benefits of scale by reasoning about data

Inference in the time of GPT

Nonparametric Language Models: Trading Data for Parameters (and Compute) in Large Language Models

Round Table Discussion: Large Language Models

Mark Steedman

Edward Grefenstette

Luke Zettlemoyer

Edoardo Ponti

Steve Clark