

# Question Answering over Temporal Knowledge Graphs



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**Theme 1**

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## Virtual - Researchers Catch-up

The use of knowledge graphs for natural language processing tasks, including question answering, has been gaining traction in recent years. However, existing approaches often need help to capture temporal information, which is critical in industry data as it is naturally time variant. Industry data presents a unique opportunity to explore temporal knowledge graphs, where the head entity represents an event, and the tail entity is a time-variant state. For example, Engine X (head entity) was observed leaking oil (tail) with a start-time (temporal point) and an optional end-time (temporal point).

Sirui will introduce existing question-answering systems over temporal knowledge graphs, and she will present an approach under development. Her proposed approach enables accurate retrieval of time-sensitive information from large-scale knowledge repositories. She will leverage a neural network architecture that integrates temporal information with question-and-answer embeddings, allowing the system to reason over the temporal structure of the graph to generate accurate answers.

Sirui's proposed approach will offer a promising solution for enhancing knowledge management and decision-making in industries that rely on historical data.

<https://www.maintenance.org.au/display/news/2023/05/01/Sirui+Li+presents+-+Question+Answering+over+Temporal+Knowledge+Graphs>

Presentation Link