

Chau Nguyen - Profile Section

Chau is a PhD student in Computer Science with a previous background in banking and finance. He has a passion for the relationship between the theory of computer science and its application in specific circumstances.

His most recent research is to use semantic knowledge (texts), to detect and reason about interactive objects with their parts in a human-readable way. This research is related to object classification, detection, segmentation and knowledge representation - using Deep Learning and Machine Learning - as sub branches in Artificial Intelligence (AI). Chau believes that there is considerable value in research applying AI to solve real-world problems while we can still control AI in our own lives.

He recently completed a Masters by Research in Computer Science from Edith Cowan University. Chau will complete his PhD with Dr. Tim French, Assoc. Professor Wei Liu, Professor Melinda Hodkiewicz and Dr. Michael Stewart at the University of Western Australia.

Chau is currently working on processing texts to connect entities formation using graphs and developing models that can learn to understand these texts. He will be focusing on research associated with Theme 1 – Support the Maintainer."

PHD Research - Query Embedding for Multi-hop Reasoning over Technical Domains

The aim of Chau's research is to use Query Embedding systems that can efficiently learn to represent and understand texts by leveraging Multi-hop Reasoning about Knowledge Graphs (KGs).

This research raises these following questions:

- How do you optimise the Query Embedding (representing text queries into low dimensional space) to obtain better answers from queries of KGs, in the contexts of technical domains?
- What are the measures to evaluate the quality and accuracy of query

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embedding to the task of Multi-hop Reasoning (finding answer entities via many relational paths) about KGs?

- How do you apply Multi-hop Reasoning considering the practice in technical settings using KGs?

Chau's research will enable organisations to leverage the knowledge in unstructured text data, so queries can be posed and answered with requiring a pre-designed data schema.

This approach also has the benefit of being able to propose answers to queries using statistical inference, making the system more robust to incomplete and misrepresented data.

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