Speaker:

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Talk Title:

Calculating sentence similarity using a hybrid classical-quantum workflow

Talk Abstract:

Natural language processing (NLP) is often used to perform tasks like sentiment analysis, relationship extraction and word sense disambiguation. The "distributional compositional semantics" (DisCo) formalism incorporates the grammatical structure of sentences of a language into the analysis algorithms, giving grammatically informed algorithms that compute the meaning of sentences. This algorithm has been noted to offer significant improvements to the quality of results, as compared to traditional "bag-of-words" methods. However, the main challenge in its implementation is the need for large classical computational resources. Here, we take inspiration from the DisCo-formalism and implement a hybrid classical-quantum sentence similarity calculation workflow using the Intel Quantum Simulator (Intel-QS). By appropriately analysing and preparing our corpus data, we demonstrate a workflow for calculating the similarity between sentences using quantum states.

QNLP Website: http://www.cs.ox.ac.uk/QNLP2019/