ICFO

AI SESSION SERIES: Using GPT to accelerate quantum research and innovation

JACOB SHERSON

June 28, 2024
12:00 to 13:00
Elements Room

BIO:

Jacob Sherson holds professorships of Management at Aarhus University and Physics at the Niels Bohr Institute, Copenhagen University and is Director of the Center for Hybrid Intelligence and the game-based citizen science platform ScienceAtHome with +300,00 contributors. Jacob co-leads the pan-European Quantum Technology workforce efforts coordinates the 17mio? EU project,DigiQ, on Pan-European Quantum Master's education and is the director of the European Quantum Readiness Center. Jacob advises public and private institutions on AI and quantum technologies, is a TedX speaker (+300k views) and won the 2020 Falling Walls in Science and Innovation Management, 2019 Bold Award on Boldest AI + Boldest Scientific Project, 2018 Grundfos Prize and 2017 Ministerial Research Communication Prize.

ABSTRACT:

In this talk, I will introduce the work of the European Quantum Readiness Center, which on behalf of the Quantum Flagship aims to understand better the growth of the quantum technology industry ecosystem and how AI can be used to accelerate quantum research and development. For the former, I will discuss our efforts to understand challenges and opportunities for the quantum companies and how we use generative AI is used to analyse large amounts of quantum job data. With respect to the use of AI, i will present some of our own research examples such as the first use of AlphaZero beyond the realm of games as wel as our efforts to use GPT technology to map out and classify use cases of AI algorithms i quantum research and opportunities for what we call hybrid intelligence as well as our effort to classify quantum inspired and NISQ and FTQC research papers in order to both comba increasing hype and misinformation and to crowdsource hardware requirements for th construction of full-scale quantum computers.

This event will explore the innovative application of generative AI in job data analysis, beginning with a **seminar** led by **Prof. Jacob Sherson**, followed by an **open discussion** on the topic.

During the seminar, Prof. Sherson will introduce the work of the European Quantum Readiness Center, which on behalf of the Quantum Flagship aims to understand better the

growth of the quantum technology industry ecosystem and **how AI can be used to accelerate quantum research and development**. For the former, Jacob will discuss their efforts to understand challenges and opportunities for the quantum companies and **how generative AI is used to analyse large amounts of quantum job data**. With respect to the use of AI, the speaker will present some of their own research examples such as the first use of AlphaZer beyond the realm of games, as well as their efforts to use GPT technology to map out an classify use cases of AI algorithms in quantum research. Additionally, he will explor opportunities for what they call**hybrid intelligence** and their efforts to classify quantum inspired and NISQ and FTQC research papers in order to both combat increasing hype, and misinformation and to crowdsource hardware requirements for the construction of full-scale quantum computers.
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