



Contribution ID: 48

Type: **not specified**

Quantum Machine Learning

Wednesday 6 September 2023 10:25 (50 minutes)

Abstract:

In the transformative era of quantum computing, the fusion of quantum mechanics and machine learning promises to revolutionize data-driven tasks. In this lecture, we will present the fundamental concepts of Quantum Machine Learning (QML), offering participants an understanding of its potentials and challenges. Our goal is to demystify the quantum learning algorithms that may soon underpin many technological advances. As a use case, we will highlight our recent article, 'Quantum Neural Networks Successfully Calibrate Language Models.' This work shows that parametrized variational circuits can successfully calibrate Deep Learning Q&A models, ensuring that they not only produce accurate outcomes, but also trustworthy probabilities.

Lecturer:

Professor and researcher at Universidade Estadual Paulista (Unesp - Bauru), Dr. Fanchini has expertise in quantum information, quantum computation, and machine learning. His primary research areas encompass open quantum systems, protection of quantum information, and the exploration of quantum systems through machine learning techniques. In recent years, his focus has intensified on quantum machine learning, highlighting the integration of his core areas of expertise.

Presenter: Prof. FERNANDES FANCHINI, Felipe (Sao Paulo State University, Faculty of Science of Bauru, UNESP-Bauru, BR)

Session Classification: Introduction to Artificial Intelligence and Hardware based applications