Description of the Lecture

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Unique choice box:

- ☒ introductory course;
- advanced course;
- exercise sessions;
- programming sessions;
- other interactive sessions

Title:

- From Classical to Quantum Machine Learning

Short description/abstract:

- This course is an introduction to the field of quantum machine learning. The course begins with a general overview of the fundamental notions and practical applications of classical machine learning, with a particular focus on the most common machine learning algorithms. It then introduces the main concepts of quantum machine learning and provides an overall picture of the field. To illustrate these concepts with concrete examples, quantum versions of the perceptron and the linear regression algorithms are examined.

Number of sessions: 6 (1 hour per session > Total: 6 Hours).

o Domain from Arxiv: Machine Learning (stat.ML) Quantum Physics (quant-ph)

o MSC (ex. 35K57 & 35R30): 68T05, 68Q32, 68Q12, 81P68

o Keywords (separated by #): machine learning # quantum computing # Grover's search # perceptron # regression