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Exploring Quantum Machine Learning for High-Energy Physics

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Recent advancements in quantum computing have introduced new opportunities alongside classical computing, offering unique capabilities that complement traditional methods. As quantum computers operate on fundamentally different principles from classical systems, there is a growing imperative to explore their distinct computational paradigms. In this context, our research aims to explore the potential applications of quantum machine learning in the field of high-energy physics. Specifically, we seek to assess the feasibility of employing supervised quantum machine learning for searches conducted at the Large Hadron Collider. Additionally, we aim to investigate the potential of generative quantum machine learning for simulating tasks relevant to high-energy physics. By leveraging quantum computing technologies, we aim to advance the capabilities of computational approaches in addressing complex challenges within the field of particle physics.

Mini Symposia (Invited Talks Only)

Authors: THONNARD, Anthony; DOBBINS, Ben; YANG, Jinghong; SOMA, Shankar; SELVAKUMARAN, Sriman

Presenters: YANG, Jinghong; Prof. JABEEN, Shabnam (University of Maryland)

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