

Quantum computing for HEP and GW - Nikhef QuSoft SURF workshop

Report of Contributions

Contribution ID: 1

Type: **not specified**

Quantum Machine Learning for b-jet charge identification based on a Variational Quantum Classifier

Monday, 12 September 2022 10:15 (25 minutes)

Quantum Machine Learning for b-jet charge identification. J. High Energ. Phys. 2022, 14 (2022).
[https://doi.org/10.1007/JHEP08\(2022\)014](https://doi.org/10.1007/JHEP08(2022)014)

Presenter: NICOTRA, Davide

Session Classification: Session I

Contribution ID: 2

Type: **not specified**

Quantifying Grover speed-ups beyond asymptotic analysis

Monday, 12 September 2022 10:45 (25 minutes)

Presenter: FOLKERTSMA, Marten (CWI/QuSoft)

Session Classification: Session I

Contribution ID: 3

Type: **not specified**

Solving correlation clustering with QAOA and a Rydberg qudit system: a full-stack approach

Monday, 12 September 2022 11:15 (25 minutes)

Presenter: WEGGEMANS, Jordi (CWI)

Session Classification: Session I

Contribution ID: 4

Type: **not specified**

Quantum Machine Learning using Hopfield Networks

Monday, 12 September 2022 11:45 (25 minutes)

based on Ising Models for LHCb and GW

Presenter: DIBENEDETTO, Domenica

Session Classification: Session I

Contribution ID: 5

Type: **not specified**

From classic ML in HEP to Quantum ML

Monday, 12 September 2022 12:15 (15 minutes)

Presenter: CROFT, Vincent (AQA Leiden)

Session Classification: Session I

Contribution ID: 6

Type: **not specified**

Introduction to the Open Space sessions

Monday, 12 September 2022 13:30 (30 minutes)

All participants are kindly requested to send in their questions, challenges, and discussion points to us. We will sort and group these collaboratively, organisations ~3 smaller teams, and drill down into the details of these questions in a dynamic, 'open space' like, format.

Presenters: GROEP, David (Nikhef); HELSEN, Jonas (Cwi & qusoft)

Contribution ID: 7

Type: **not specified**

Space 1: Track reconstruction

Monday, 12 September 2022 14:00 (1 hour)

assign reporter

explain/pitch briefly the question

discussions!

What could work? What is unlikely to work? Why?

Contribution ID: 8

Type: **not specified**

Space 2: Singular Spectrum Decomposition and GW

Monday, 12 September 2022 14:00 (1 hour)

assign reporter

explain/pitch briefly the question

discussions!

What could work? What is unlikely to work? Why?

Contribution ID: 9

Type: **not specified**

Space 3: Simulation and QFTs

Monday, 12 September 2022 14:00 (1 hour)

assign reporter

explain/pitch briefly the question

discussions!

What could work? What is unlikely to work? Why?

Contribution ID: **10**

Type: **not specified**

Report-out and summary per table

Monday, 12 September 2022 16:15 (15 minutes)

Contribution ID: 11

Type: **not specified**

Space 1b: Algorithms, HHLs, and PDEs

Monday, 12 September 2022 15:15 (1 hour)

Contribution ID: 12

Type: **not specified**

Space 2b:

Monday, 12 September 2022 15:15 (1 hour)

Contribution ID: 13

Type: **not specified**

Space 3b: hard quetions:sustainability, KPIs, and education

Monday, 12 September 2022 15:15 (1 hour)

Contribution ID: 14

Type: **not specified**

Report-out and summary per table

Monday, 12 September 2022 15:00 (15 minutes)