Session Program

19–21 Aug 2024

HAMLET
How to Apply Machine Learning to Experimental & Theoretical
August 19 - 21, 2024
Copenhagen, Denmark
PHYSICS

HAMLET-PHYSICS 2024 Conference/Workshop

Plenaries & Keynotes

Lundbeck Auditorium

Monday 19 August

09:30

Plenaries & Keynotes

Session | **Location:** Lundbeck Auditorium

09:30–09:50 **Intro**

09:50–10:45

Keynote: Search for New Physics with Machine Learning: concepts, applications and recent progress

Speaker
Prof. Roman Pasechnik

10:45–11:10 **Coffee**

11:10–11:35 **GraphNeT 2.0**

Speaker
Rasmus Ørsøe

11:35–12:00

Transforming the Bootstrap: Using Transformers to Compute Scattering Amplitude

Speaker
Dr Matthias Wilhelm

12:00

13:00

Plenaries & Keynotes

Session | **Location:** Lundbeck Auditorium

13:00–13:55

Keynote - Savannah Thais (Columbia): Trustworthy and Robust AI for Science and Society

13:55–14:20

Advancing Ultra-High Energy Neutrino Astronomy through Deep Learning and Differential Programming

Speaker
Christian Glaser

14:20–14:45 **Coffee**

14:45–15:10

cp3-bench: A tool for benchmarking symbolic regression algorithms tested with cosmology

Speaker
Mattias Ermakov Thing

15:10–15:35

Data challenges for black-hole image reconstruction and feature identification

Speaker
Raúl Carballo-Rubio

16:00

15:35–16:00

Decoding the Early Universe: Machine Learning Applications in CMB Analysis

Speaker

Leonora Kardum

Tuesday 20 August

09:00

Plenaries & Keynotes

Session | **Location:** Lundbeck Auditorium

09:00–09:10 **Intro**

09:10–10:05

Keynote - Thea Aarrestad (ETH Zurich): AI at the Extreme Edge: Nanosecond inference for New Physics Discovery at the Large Hadron Collider

10:05–10:30

Exploring Bottomonium Behaviour at Finite Temperatures: Machine Learning and Lattice QCD

Speaker
Benjamin Jaeger

10:30–11:00 **Coffee**

11:00–11:35

Keynote - Petar Veličković (Google DeepMind) - Monoids and time: Embracing asynchrony in (G)NNs

Speaker
Petar Veličković

11:35–12:00 **Bayesian optimisation of ocean models**

Speaker
Prof. Markus Jochum

12:00

Wednesday 21 August

09:00

Plenaries & Keynotes

Session | **Location:** HC Ørsted Building, Auditorium 4, Universitetsparken 5, 2100 København

09:00–09:05 **Intro**

09:05–09:30 **An overview of the Gefion Supercomputer**

Speaker
Morten Bache

09:30–09:55 **Symbolic regression for Science: challenges and opportunities.**

Speaker
Alessandro Lucantonio

09:55–10:20
Discovering interpretable physical models using Symbolic Regression and Discrete Exterior Calculus

Speaker
Simone Manti

10:20

13:00

Plenaries & Keynotes

Session | **Location:** Auditorium 4, HC Ørsted Building

13:00–13:25 **AI for fusion, plasma simulations, and experiment control**

Speaker
Adriano Agnello

13:25–13:50 **Uncertainty estimation in magnetic field inference**

Speaker
Stefan Pollok

13:50–14:15 **Breakout session - round 1**

14:15–14:40 **Breakout session - round 2**

14:40–15:10 **Breakout session - summaries**

15:10–15:20 **Workshop Summary & Outro**

15:20