

Session Program

29 January 2024 to 2 February 2024

**6th Inter-experiment Machine Learning
Workshop**

Contributed Talks

CERN, 503/1-001 - Council Chamber

Monday 29 January

16:30

Contributed Talks: Contributed Talks 1

Session | Location: CERN, 503/1-001 - Council Chamber

16:30–16:50

Attention to the strengths of physics interactions: Enhanced Deep Learning Event Classification for Particle Physics Experiments

Speaker

Polina Moskvitina

16:50–17:10

Modeling N_{ch} distributions and p_{T} spectra in high-energy pp collisions with DNNs

Speaker

Maria Alejandra Calmon Behling

17:10–17:30

The DL Advocate: Playing the devil's advocate with hidden systematic uncertainties

Speaker

Andrea Mauri

17:30–17:50

the Fair Universe project and the HiggsML Uncertainty Challenge

Speaker

David Rousseau

17:50

Tuesday 30 January

11:30

Contributed Talks: Contributed Talks 2

Session | Location: CERN, 40/S2-D01 - Salle Dirac

11:30-11:50 **Accelerating Graph-Based Tracking with Symbolic Regression**

Speaker

Nathalie Soybelman

11:50-12:10

Reinforcement Learning Algorithms for Charged Particle Tracking with Applications in Proton Computed Tomography

Speaker

Tobias Kortus

12:10-12:30

Differentiable Vertex Fitting for Jet Flavour Tagging

Speakers

Rachel Emma Clarke Smith, Ruben Miguel De Almeida Inacio

12:30-12:50

Advances in developing deep neural networks for finding primary vertices in proton-proton collisions at the LHC

Speaker

Simon Akar

12:50

14:00

Contributed Talks: Contributed Talks 3

Session | Location: CERN, 40/S2-D01 - Salle Dirac

14:00-14:20

End-to-end Reconstruction Algorithm for Highly Granular Calorimeters

Speaker

Mr Philipp Zehetner

14:20-14:40

Electron and Proton Classification with AMS ECAL Using Convolutional Vision Transformers and Domain Adaptation

Speaker

Berk Türk

14:40-15:00

Parametrising profiled likelihoods with neural networks

Speaker

Dr Humberto Reyes-González

15:00-15:20

Accelerating the search for mass bumps using the Data-Directed Paradigm

Speaker

Bruna Pascual

15:20

15:50

Contributed Talks: Contributed Talks 4

Session | Location: CERN, 40/S2-D01 - Salle Dirac

15:50-16:10

Training and optimisation of large transformer models at CERN: an ATLAS case study on Kubeflow

Speaker

Maxence Draguet

16:10-16:30

Masked particle modelling

Speaker

Samuel Byrne Klein

16:30-16:50

Finetuning Foundation Models for Joint Analysis Optimization

Speaker

Matthias Vigl

16:50-17:10

Re-simulation-based self-supervision for representation learning

Speaker

Jeffrey Krupa

17:50

Friday 2 February

09:00

Contributed Talks: Contributed Talks 5

Session | Location: CERN, 222/R-001

09:00–09:20 **DeepTreeGANv2: Iterative Pooling of Point Clouds**

Speaker

Mr Moritz Scham

09:20–09:40

Out-of-Distribution Multi-set Generation with Context Extrapolation for Amortized Simulation and Inverse Problems

Speaker

Hosein Hashemi

09:40–10:00

Conditional Set-to-Set Generation for Fast Simulation using Diffusion and Graph-to-Graph Translation

Speaker

Dmitrii Kobylanskii

10:00–10:20 **Unweighted event generation with matrix element surrogates**

Speaker

Timo Janssen

10:20

10:50

Contributed Talks: Contributed Talks 6

Session | Location: CERN, 222/R-001

10:50–11:10 **A Deep Generative Model for Hadronization**

Speaker

Jay Chan

11:10–11:30

Reinforcement learning for automatic data quality monitoring in HEP experiments

Speaker

Olivia Jullian Parra

11:30–11:50

Longitudinal Beam Diagnostics and Phase Space Reconstruction in the LHC Using ML

Speaker

Konstantinos Iliakis

11:50