

Session Program

17-23 Aug 2025

ML4Jets2025

Reconstruction and Analysis

California Institute of Technology, CHEN100
1200 E. California Blvd., Pasadena, California

Wednesday 20 August

10:50

Reconstruction and Analysis

Session | **Location:** Broad 100, Chen Neuroscience Research Building | **Convener:** Vinicius Massami Mikuni

10:50–11:10

Neural autoregressive flows for data-driven background estimation in a search for four-top quark production in the all-hadronic final state with CMS at 13 TeV

Speaker

Melissa Quinnan

11:10–11:30

Fast and Precise Track Fitting with Machine Learning

Speaker

Daniel Whiteson

11:30–11:50

MaskFormers for Reconstruction Tasks in High Energy Physics

Speaker

Max Hart

11:50–12:10

A Graph Neural Network Approach for General Reconstruction of Non-Helical Tracks [remote]

Speaker

Levi Condren

12:10–12:30

Machine Learning for Dark Matter searches at the LHC

Speaker

Rafal Maselek

12:30–12:50

DeepSub : Deep Learning for Thermal Background Subtraction in Heavy-Ion Collisions [remote]

Speaker

Umar Sohail Qureshi

12:50

Friday 22 August

09:00

Reconstruction and Analysis

Session | **Location:** Chen 100, Chen Neuroscience Research Building | **Convener:** Dr Claudius Krause

09:20–09:40

Boosting HH(4b) beyond boosted HH(4b): a calibratable full-particle search framework

Speaker

Tianyi Yang

09:40–10:00

Going HyPER: Enhancing collider measurements with hypergraph learning

Speaker

Ethan Lewis Simpson

10:00–10:20

Machine Learning-Assisted Measurement of Lepton-Jet Azimuthal Angular Asymmetries and of the complete final state in Deep-Inelastic Scattering at HERA

Speaker

Vinicius Massami Mikuni

10:20–10:40

Optimal Transport for e/π^0 Particle Classification in LArTPC Neutrino Experiments

Speaker

Jessica N. Howard

10:40