2021 Meeting of the Division of Particles and Fields of the American Physical Society (DPF21)

Monday, July 12, 2021

Computation, Machine Learning, and AI: COMP 1E - Track E (2:30 PM - 4:00 PM)

-Conveners: Horst Wahl; Aishik Ghosh; Gordon Watts

time	[id] title	presenter
2:30 PM	[229] Deep-Learned Event Variables for Collider Phenomenology	SHYAMSUNDAR, Prasanth
2:45 PM	[58] Unfolding ATLAS Collider Data with the Novel OmniFold Procedure	SURESH, Adi
3:00 PM	[107] Neural Empirical Bayes: Source Distribution Estimation and its Applications to Simulation-Based Inference	VANDEGAR, Maxime Noel Pierre
3:15 PM	[115] Progress towards a more sensitive CWoLa hunt with the ATLAS detector	BENKENDORFER, Kees Christian
3:30 PM	[121] Active Learning for Exclusion level set estimation with the ATLAS experiment	ESPEJO MORALES, Irina
3:45 PM	[61] Recent Progress in ML for Tracker DQM	FIDALGO RODRIGUEZ, Guillermo Antonio

Computation, Machine Learning, and AI: COMP 2E - Track E (4:15 PM - 5:45 PM)

-Conveners: Oleksandr Viazlo; Gordon Watts

time	[id] title	presenter
4:15 PM	[89] Framework for Hyperparameter Optimization in Machine Learning using the ATLAS Grid Computing Resource	CHENG, Alkaid
4:30 PM	[95] An intelligent Data Delivery Service (iDDS) for and beyond the ATLAS experiment	GUAN, Wen
4:45 PM	[254] Implementation of Jupyter Notebooks into The Reproducible Open Benchmarks for Data Analysis Platform (ROB)	WANG, Aaron MUELLER, Heiko
5:00 PM	Break	
5:15 PM	[136] CaloFlow: Fast and Accurate Generation of Calorimeter Showers with Normalizing Flows	Dr KRAUSE, Claudius
5:30 PM	[342] Towards Designing and Exploiting Generative Networks for Neutrino Physics Experiments using Liquid Argon Time Projection Chambers	Ms SAXENA, Nikita

Tuesday, July 13, 2021

Computation, Machine Learning, and AI: COMP 3E - Track E (2:30 PM - 4:00 PM)

-Conveners: Ben Nachman

time	[id] title	presenter
2:30 PM	[151] The ATLAS Multi-threaded Trigger Selection Framework	WIEDENMANN, Werner
2:45 PM	[14] Nanosecond machine learning with BDT for high energy physics	CARLSON, Ben
3:00 PM	[264] Fast RNN Inference on an FPGA	WANG, Aaron
3:15 PM	[227] FPGA filter for fast tracking in the ATLAS HL-LHC trigger	KALDERON, William
3:30 PM	[243] ATLAS pixel cluster splitting using Mixture Density Network	CHEN, Boping KHODA, Elham E
3:45 PM	[385] RNN-based track finding in the Fermilab Muon g-2 experiment	KARGIANTOULAKIS, Emmanouil

Computation, Machine Learning, and AI: COMP 4E - Track E (4:15 PM - 5:45 PM)

-Conveners: Ghosh Aishik; Ben Nachman

time	[id] title	presenter
4:15 PM	[202] Reconstructing Electrons and Photons in the CMS ECAL using Graph Neural Networks.	ROTHMAN, Simon
4:30 PM	[288] Neural Network-based Resolutions for Pion Energy Calibration with the ATLAS Detector	SURESH, Adithya
4:45 PM	[263] Linearized Optimal Transport for Jet Physics	Ms CAI, Tianji
5:00 PM	[211] Using Dropout to Capture Uncertainty: A Novel Application to B-tagging	DONG, Binbin
5:15 PM	[109] Explainable AI for ML jet taggers using expert variables and layerwise relevance propagation	AGARWAL, Garvita
5:30 PM	[78] Unfolding at the LHC: A review of unfolding at the LHC, including recent and future developments with RooUnfold.	CROFT, Vincent Alexander

Wednesday, July 14, 2021

Computation, Machine Learning, and AI: COMP 5E - Track E (2:30 PM - 4:00 PM)

-Conveners: Ghosh Aishik; Muge Karagoz

time	[id] title	presenter
2:30 PM	[322] Improvements to Cosmic Muon Identification Using Machine Learning	SRIVASTAV, Mohit
2:45 PM	[307] Direction Reconstruction using a CNN for GeV-Scale Neutrinos in IceCube	YU, Shiqi
3:00 PM	[174] Convolutional Neural Network Reconstruction of Neutrino Event Interaction Vertex in IceCube	WILLISON, Julia
3:15 PM	[160] IceCube-Upgrade Reconstructions using Recurrent Neural Networks	PRIES, Brandon
3:30 PM	[372] Particle Instance Identification Using a Sparse 3D Convolutional Neural Network	Mr YU, Felix
3:45 PM	[395] Implementation of Machine Learning Algorithms to Form Di-Muons from Off-Shell Parent Particles	RAHMANI, Mehdi