IPA workshop on Machine Learning for particle physics and astrophysics (IPA-ML)

Tuesday, March 21, 2023

Applications: Neutrinos (I) - HIT E 51 (9:00 AM - 10:20 AM)

time	[id] title	presenter
9:00 AM	[16] Introduction on neutrino experiments workflow with emphasis on challenges	Prof. SGALABERNA, Davide
9:20 AM	[21] Image reconstruction in a 3D plastic scintillator detector using deep learning	Dr ALONSO MONSALVE, Saul
9:40 AM	[17] Neutrino interaction classification and transfer learning	Dr WHITEHEAD, Leigh
10:00 AM	[19] Event filtering and mitigation of simulation biases	Dr BABICZ, Marta

Applications: Neutrinos (II) - HIT E 51 (10:50 AM - 11:30 AM)

time	[id] title	presenter
10:50 AM	[20] Event reweighting and generative models in neutrino experiments	Dr VILELA, Cristovao
11:10 AM	[18] Multi-task data reconstruction chain for imaging detectors in neutrino experiments	Prof. TERAO, Kazuhiro

Applications: Astrophysics (I) - HIT E 51 (11:30 AM - 12:10 PM)

time	[id] title	presenter
11:30 AM	[22] Large Scale Structure Cosmology with Artificial Intelligence	Dr KACPRZAK, Tomasz
11:50 AM	[23] Cosmological constraints from combined probes of large scale structure with deep learning	THOMSEN, Arne

Applications: Astrophysics (II) - HIT E 51 (1:20 PM - 2:40 PM)

time	[id] title	presenter
1:20 PM	[44] Background rejection in Cherenkov Telescopes	Prof. BILAND, Adrian
1:40 PM	[25] New generative AI models	BIGGIO, Luca
2:00 PM	[26] Geometric Learning/ Physics-informed AI for cosmology	Dr TROESTER, Tilman
2:20 PM	[24] PointNets for galaxy redshift surveys	ANAGNOSTIDIS, Sotirios

Applications: LHC experiments (I) - HIT E 51 (3:10 PM - 5:00 PM)

time	[id] title	presenter
3:10 PM	[27] Introduction on LHC experiments workflow with emphasis on challenges	Prof. DE COSA, Annapaola

3:30 PM	[30] Object identification and reconstruction	Dr CALANDRI, Alessandro
3:50 PM	[28] Ultrafast ML inference for triggering	Dr AARRESTAD, Thea
4:10 PM	[29] Machine learning for data quality monitoring	SEIDITA, Roberto
4:30 PM	[34] Probabilistic models in ML for HEP	VALSECCHI, Davide

Wednesday, March 22, 2023

Applications: LHC experiments (II) - HIT E 51 (9:00 AM - 10:20 AM)

time	[id] title	presenter
9:00 AM	[31] Data-MC matching	GALLI, Massimiliano
9:20 AM	[32] Analysis techniques	EBLE, Florian
10:00 AM	[35] Quantum machine learning	BELIS, Vasilis

Applications: Crossing boundaries in and beyond physics - HIT E 51 (10:50 AM - 12:30 PM)

time	[id] title	presenter
10:50 AM	[37] Machine learning applications	Dr VERZETTI, Mauro
11:30 AM	[36] Robotics, event-based imaging	Prof. SCARAMUZZA, Davide
12:00 PM	[40] Knowledge distillation	ODAGIU, Patrick