Learning to Discover

mercredi 27 avril 2022

AI and physics conference: Day 1 Morning (09:00 - 12:30)

-Présidents de session: Jean-Roch Vlimant; David Rousseau

time	[id] title	presenter
09:00	[74] Conference Introduction from organisers	
09:15	[80] Purely Data-Driven Approaches to Weather Prediction: Promise and Perils	RAVURI, Suman
10:00	[76] How to explain the success in scikit-learn and how to make it last	GRAMFORT, Alexandre
10:30	Coffee break	
11:00	[77] Origins of AI in High Energy Physics from Orsay to Chicago – and back!	DENBY, Bruce
11:45	[78] Summary of Dealing with Uncertainties workshop	KAGAN, Michael Aaron

AI and physics conference: Day 1 Afternoon (14:00 - 19:00)

-Présidents de session: Andreas Salzburger; Cécile Germain

time	[id] title	presenter
14:00	[79] Data-centric AI	EGELE, Romain
14:30	[36] Application of Self-organizing maps in high energy physics	HABERMANN, Kai
14:45	[35] Super-resolution for calorimetry	DI BELLO, Francesco
15:00	[28] Inducing selective posterior-collapse in variational autoencoders by modelling the latent space as a mixture of normal-gamma distributions	JOUFFROY, Emma
15:15	[25] Deep Multi-task Mining Calabi-Yau Manifolds	FINOTELLO, Riccardo
15:30	Coffee break	
16:00	[81] Scientific inference with imperfect theories: examples with machine learning and neurosciences	VAROQUAUX, Gael
16:30	[20] Study of model construction and the learning for hierarchical models	SAITO, Masahiko
16:45	[44] Uncertainty Aware Learning for High Energy Physics With A Cautionary Tale	GHOSH, Aishik
17:00	[27] Graph Neural Networks for track reconstruction at HL-LHC	VALLIER, Alexis
17:15	[41] Particle Tracking with Graph Neural Networks	DEZOORT, Gage
17:30	[32] Jet Energy Corrections with GNN Regression	HOLMBERG, Daniel

jeudi 28 avril 2022

AI and physics conference: Day 2 morning (09:00 - 13:05)

-Présidents de session: Eilam Gross; François Lanusse

time	[id] title	presenter
09:00	[83] Experiment optimisation with differentiable programming	DORIGO, Tommaso
09:45	[42] Astronomical source separation with variational autoencoders	BISWAS, Biswajit
10:00	[29] Machine Learning for Real-Time Processing of ATLAS Liquid Argon Calorimeter Signals with FPGAs	SUR, Nairit
10:15	[31] Looking for rare di-Higgs events at the LHC with Machine (Deep) Learning techniques	D'ANZI, Brunella
10:30	Coffee break	
11:00	[26] An Imperfect Machine to search for New Physics: dealing with uncertainties in a machine-learning based signal extraction	GROSSO, Gaia
11:30	[22] Neural Empirical Bayes: Source Distribution Estimation and its Applications to Simulation-Based Inference	VANDEGAR, Maxime
11:45	[16] Renormalized Mutual Information for Artificial Scientific Discovery	SARRA, Leopoldo
12:00	[84] Summary of Representation workshop	THAIS, Savannah

AI and physics conference: Day 2 afternoon (14:00 - 16:15)

-Présidents de session: Savannah Thais

time	[id] title	presenter
14:00	[85] The five walls of Artificial Intelligence	BRAUNSCHWEIG, Bertrand
14:45	[86] AI in science: the need to increase research productivity	NOLAN, Alistair
15:20	[21] ALICE - non parametric and parametric models, dealing with uncertainty	IVANOV, Marian
15:35	[34] Efficiency parametrization with Neural Networks	KAKATI, Nilotpal

vendredi 29 avril 2022

AI and physics conference: Day 3 Morning (09:00 - 12:35)

-Présidents de session: Jean-Roch Vlimant; Pietro Vischia

time	[id] title	presenter
09:00	[87] Highly accurate protein structure prediction with AlphaFold	GREEN, Tim
09:45	[24] Sampling high-dimensional posterior by Neural Score Matching	REMY, Benjamin
10:00	[33] Symbolic expression generation via VAE	POPOV, Sergei Dr LAZAREV, Mikhail
10:15	[38] Unbinned measurements in global SMEFT fits from machine learning	TER HOEVE, Jaco
10:30	Coffee break	
11:00	[88] Merging Physical Models with Deep Learning for Cosmology	LANUSSE, François
11:30	[89] AI and the meaning crisis	KEGL, Balazs
12:00	[23] Unsupervised Learning Likelihood functions of LHC results	REYES GONZÁLEZ, Humberto
12:15	[39] Online-compatible unsupervised nonresonant anomaly detection	Dr MIKUNI, Vinicius
12:30	[99] Thanks to Sabrina and Aurélie	

AI and physics conference: Day 3 afternoon (14:00 - 17:40)

-Présidents de session: Felice Pantaleo; Anja Butter

time	[id] title	presenter
14:00	[90] Summary of Generator workshop	RAINE, Johnny
14:30	[91] Quantum Generative Models in High Energy Physics	VALLECORSA, Sofia
15:00	[19] Quantum generative models for muonic force carriers events	KISS, Oriel Orphee Moira
15:15	[18] ML-based Correction to Accelerate Geant4 Calorimeter Simulations	Dr KOURLITIS, Evangelos
15:30	Coffee break	
16:00	[92] Advances in Machine Learning Based Modeling and Control of Particle Accelerators at Scientific User Facilities	EDELEN, Auralee
16:30	[43] Simulating the LHCb experiment with Generative Models	BARBETTI, Matteo
16:45	[30] Generative models uncertainty estimation	KAZEEV, Nikita
17:00	[40] Generative models for scalar field theories: how to deal with poor scaling?	KOMIJANI, Javad
17:15	[97] Conclusion from the organisers	ROUSSEAU, David