

Session Program

10-14 Jul 2023

A3D3 all-hands: High-Throughput AI Methods and Infrastructure Workshop

Working dinner

University of Washington
Seattle, USA

Monday 10 July

18:00

Working dinner: Reception & Poster Presentations

Session | **Location:** Oak Hall Denny Room

18:00-19:00 **Poster Setup/Arrival**

19:00-21:00

Real-time Fitting and Materials Characterization in Band-Excitation Piezoresponse Force Microscopy

Speakers

Veronica Obute , Yael Passy

19:00-21:00

Multi-block RNN Autoencoders Enable Broadband ECoG Signal Reconstruction

Speaker

JINGYUAN LI

19:00-21:00

Real-Time AI for the Particle Flow and PUPPI Algorithm in the CMS Level-1 Trigger Upgrade

Speaker

Noah Paladino

19:00-21:00

GWAK: Gravitational-Wave Anomalous Knowledge

Speaker

Eric Anton Moreno

19:00-21:00

A3D3 Equity & Career Activities

Speaker

Janina Hakenmüller

19:00-21:00

Jet Tagging Algorithm for Long-Lived Particles at the CMS Level-1 Trigger

Speaker

Anthony Vizcaino Aportela

19:00-21:00

Benchmarking HLS4ML vs. SystemVerilog

Speaker

Waiz Khan

19:00-21:00

Interaction Networks for Anomaly Detection at the CMS Level-1 Trigger

Speaker

Andrew Skivington

19:00-21:00

Hyperparameter Tuning for Semi-Supervised Graph Neural Network for Pileup Mitigation

Speaker

Jack Rodgers

19:00-21:00

Predicting Pulsed-Laser Deposition SrTiO₃ Homoepitaxy Growth Dynamics using High-Speed Reflection High-Energy Electron Diffraction**Speaker**

Yichen Guo

19:00-21:00

Accelerating Hadronic Calorimetry with Sparse Point-Voxel Convolutional Neural Networks**Speaker**

Alexander Joseph Schuy

19:00-21:00

Accelerating CNNs on FPGAs for Particle Energy Reconstruction**Speaker**

Alexander Joseph Schuy

19:00-21:00

Progress towards an improved particle-flow algorithm at CMS with machine learning**Speakers**

Javier Mauricio Duarte, Michael Zhang

19:00-21:00

PyLog-HLS4ML Integration: Introducing higher level of automatic design in HLS4ML**Speaker**

Jialiang Zhang

19:00-21:00

Lyapunov-Guided Embedding for Hyperparameter Selection in Recurrent Neural Networks**Speaker**

YANG ZHENG

19:00-21:00

Parameter Estimation of Unmodeled Burst Gravitational Waves Using Likelihood-free Inference**Speaker**

Deep Chatterjee

19:00-21:00

Data for Low-Latency Electromagnetic Training**Speaker**

Abigail Gray

19:00-21:00

Machine learning evaluation in the Global Event Processor FPGA for the ATLAS Phase 2 Level 0 trigger upgrade**Speakers**

Elham E Khoda, Zhixing "Ethan" Jiang

19:00-21:00

Machine learning for HEP simulations

Speaker

Raghav Kansal

19:00-21:00

UNRAVELING GRAVITATIONAL RIPPLES: NEURAL NETWORK CLASSIFICATION**Speakers**

Mr Daniel G Fredin, Mr Cole Welch

19:00-21:00

Denoising Autoencoder for LArTPC Detectors**Speaker**

Van Tha Bik Lian

19:00-21:00

Structural Re-weighting Improves Graph Domain Adaptation**Speaker**

Shikun Liu

19:00-21:00

Pointing to a supernova with the DUNE experiment**Speaker**

Janina Hakenmüller

19:00-21:00

MCUNetV3: On-Device Training Under 256KB Memory**Speaker**

Dr Wei-Chen Wang

19:00-21:00

Testing the Supernova Pointing Resolution of DUNE with ICEBERG**Speaker**

Joshua Queen

19:00-21:00

STNDT: Modeling Neural Population Activity with Spatiotemporal Transformers**Speaker**

Trung Le

19:00-21:00

Using convex feature selection to improve offline feature decoding**Speaker**

Lauren Peterson

19:00-21:00

Graph Neural Network Triggers for $\tau \rightarrow 3\mu$ Events at the HL-LHC**Speaker**

Benjamin Simon

19:00-21:00

Sleep Spindle (LFADs) Project Abstract**Speaker**

Xiaohan Liu

19:00-21:00

Analog-Domain Implementation of Neural Networks for Energy-Efficient High Energy Physics Applications**Speaker**

Dewen Zhong

19:00-21:00

MCUNetV1 & V2: On-Device Inference of Tiny Deep Learning on IoT Devices

Speaker

Dr Wei-Chen Wang

19:00-21:00

SpectroGW: A computer vision model for Binary Black Hole merger classification**Speaker**

Arif Chu

19:00-21:00

Symmetry Informed Autoencoder for Domain Classification of BaTiO₃ Brightfield Images**Speaker**

Xinqiao Zhang

19:00-21:00

Searching Better, Faster: Detecting Binary Black Hole Mergers with Deep Learning Networks**Speaker**

Ethan Marx

19:00-21:00

Multi-objective Bayesian Optimization for High-resolution Electron Ptychography**Speaker**

Desheng Ma

19:00-21:00

Developments in Digital Optical Module Waveform Processing for the IceCube Neutrino Observatory**Speaker**

Josh Peterson

19:00-21:00

Self-Supervised Learning for Jet Tagging**Speaker**

Zihan Zhao

19:00-21:00

Decoding Upsampled Limb Trajectories of a Running Mouse from 2-Photon Calcium Imaging Using a Recurrent Neural Network Encoder-Decoder**Speaker**

Seungbin Park

19:00-21:00

Graph Neural Network-based particle tracking as a Service**Speaker**

Elham E Khoda

21:00