CERN openlab Technical Workshop

Report of Contributions

Contribution ID: **1**   Type: **not specified**

FPGA-based Machine Learning Inference for CMS with the Micron Deep Learning Accelerator

Wednesday 22 January 2020 10:30 (15 minutes)

Presenter: JAMES, Thomas Owen (CERN)

Session Classification: Computing Architectures for ML, Data Acquisition and Processing

Contribution ID: **2**   Type: **not specified**

Prototyping of a DL-based Particle Identification System for the Dune Neutrino Detector

Wednesday 22 January 2020 10:45 (15 minutes)

Presenter: RODRIGUEZ ALONSO, Manuel Jesus (CERN)

Session Classification: Computing Architectures for ML, Data Acquisition and Processing

Contribution ID: **3**   Type: **not specified**

Partner talk: Micron DLA

Wednesday 22 January 2020 11:00 (25 minutes)

Presenter: VITEZ, Marko (Sr. Machine Learning Software Engineer, Micron)

Session Classification: Computing Architectures for ML, Data Acquisition and Processing

Contribution ID: **4** Type: **not specified**

Data Analytics and IoT for Industrial Control Systems

Wednesday 22 January 2020 11:25 (15 minutes)

Presenter: SIROKY, Filip (CERN)

Session Classification: Computing Architectures for ML, Data Acquisition and Processing

Contribution ID: **5**   Type: **not specified**

Fast deep neural network inference on FPGAs

Wednesday 22 January 2020 11:55 (15 minutes)

Presenter: SUMMERS, Sioni Paris (CERN)

Session Classification: Computing Architectures for ML, Data Acquisition and Processing

Contribution ID: **6**   Type: **not specified**

Partner talk: Siemens

Session Classification: Computing Architectures for ML, Data Acquisition and Processing

Contribution ID: **7** Type: **not specified**

Neuromorphic Computing

Wednesday 22 January 2020 12:10 (15 minutes)

Presenter: Dr VLIMANT, Jean-Roch (California Institute of Technology (US))

Session Classification: Computing Architectures for ML, Data Acquisition and Processing

Contribution ID: **8** Type: **not specified**

Fast Simulation with GANs

Presenter: Dr VALLECORSA, Sofia (CERN)

Session Classification: Computing Architectures for ML, Data Acquisition and Data Processing

Contribution ID: **9** Type: **not specified**

Deep Learning use cases in CMS

Wednesday 22 January 2020 13:45 (15 minutes)

Presenter: PIERINI, Maurizio (CERN)

Session Classification: Computing Architectures for ML, Data Acquisition and Data Processing

Contribution ID: **10** Type: **not specified**

The LHCb Allen project

Wednesday 22 January 2020 14:00 (15 minutes)

Presenter: GLIGOROV, Vladimir (Centre National de la Recherche Scientifique (FR))

Session Classification: Computing Architectures for ML, Data Acquisition and Data Processing

Contribution ID: **11** Type: **not specified**

The CMS Heterogeneus Computing Revolution

Wednesday 22 January 2020 14:15 (15 minutes)

Presenters: Dr BOCCI, Andrea (CERN); PANTALEO, Felice (CERN)

Session Classification: Computing Architectures for ML, Data Acquisition and Data Processing

Contribution ID: **12**   Type: **not specified**

Deep Learning in ROOT using GPU

Wednesday 22 January 2020 15:00 (15 minutes)

Presenter: MONETA, Lorenzo (CERN)

Session Classification: Computing Architectures for ML, Data Acquisition and Data Processing

Contribution ID: **13**   Type: **not specified**

Exploiting Modular HPC in the context of DEEP-EST and ATTRACT projects

Wednesday 22 January 2020 14:30 (15 minutes)

Presenter: KHRISTENKO, Viktor (CERN)

Session Classification: Computing Architectures for ML, Data Acquisition and Data Processing

Contribution ID: **14**   Type: **not specified**

Deep Learning for de-noising DUNE data on Power

Thursday 23 January 2020 10:05 (10 minutes)

Presenter: VALLECORSA, Sofia (CERN)

Session Classification: Computing Architectures for ML, Data Acquisition and Processing

Contribution ID: **15** Type: **not specified**

DAQDB: a key-value store for data acquisition

Thursday 23 January 2020 09:50 (15 minutes)

Presenter: LEHMANN MIOTTO, Giovanna (CERN)

Session Classification: Computing Architectures for ML, Data Acquisition and Processing

Contribution ID: **16** Type: **not specified**

Partner talk: Intel OneAPI

Thursday 23 January 2020 09:00 (25 minutes)

Presenter: PEREZ, Francisco (Intel)

Session Classification: Computing Architectures for ML, Data Acquisition and Processing

Contribution ID: **17**   Type: **not specified**

Reperforming a Nobel Prize Discovery on Kubernetes and the Google Cloud

Thursday 23 January 2020 12:00 (15 minutes)

Presenter: BRITO DA ROCHA, Ricardo (CERN)

Session Classification: Data Center Technologies

Contribution ID: **18** Type: **not specified**

EOS Comtrade project

Thursday 23 January 2020 12:15 (15 minutes)

Presenter: MASCETTI, Luca (CERN)

Session Classification: Data Center Technologies

Contribution ID: **19**   Type: **not specified**

Partner talk: Oracle Single-sided messaging for accelerators: A directional talk

Thursday 23 January 2020 10:50 (25 minutes)

Presenter: SWART, Garret (Oracle)

Session Classification: Data Center Technologies

Contribution ID: **20**   Type: **not specified**

Disaster Recovery: from on-premises to cloud

Thursday 23 January 2020 11:15 (15 minutes)

Presenter: NAPPI, Antonio (CERN)

Session Classification: Data Center Technologies

Contribution ID: **21** Type: **not specified**

Data analytics in the Cloud

Thursday 23 January 2020 11:30 (15 minutes)

Presenter: CASTELLOTTI, Riccardo (CERN)

Session Classification: Data Center Technologies

Contribution ID: **22** Type: **not specified**

Oracle Oracle Management Cloud

Presenter: TSOUVELEKAKIS, Aimilios (CERN)

Session Classification: Data Center Technologies

Contribution ID: **23** Type: **not specified**

The BioDynaMo project

Thursday 23 January 2020 14:15 (20 minutes)

Presenters: HESAM, Ahmad Siar (CERN); BREITWIESER, Lukas (CERN, ETH Zurich)

Session Classification: Working with other Sciences

Contribution ID: 24 Type: **not specified**

The LivingLab project

Thursday 23 January 2020 14:35 (20 minutes)

Presenters: DI MEGLIO, Alberto (CERN); MANSET, David

Session Classification: Working with other Sciences

Contribution ID: **25** Type: **not specified**

The SmartLinac project

Thursday 23 January 2020 15:10 (15 minutes)

Presenter: DONON, Yann Pierre

Session Classification: Working with other Sciences

Contribution ID: **26**   Type: **not specified**

Use of deep learning in UNOSAT

Thursday 23 January 2020 15:25 (15 minutes)

Presenter: NEMNI, Edoardo (unitar (CH))

Session Classification: Working with other Sciences

Contribution ID: **27** Type: **not specified**

DNA storage pilot

Presenter: DI MEGLIO, Alberto (CERN)

Session Classification: Data Center Technologies

Contribution ID: **28** Type: **not specified**

Quantum GAN

Wednesday 22 January 2020 15:50 (15 minutes)

Presenter: CHANG, Su Yeon

Session Classification: Quantum Computing

Contribution ID: **29** Type: **not specified**

Alice Grid Storage Optimization

Wednesday 22 January 2020 16:05 (15 minutes)

Presenter: POPA, Mircea-Marian (University Politehnica of Bucharest (RO))

Session Classification: Quantum Computing

Contribution ID: **30** Type: **not specified**

Quantum SVM

Wednesday 22 January 2020 16:20 (15 minutes)

Presenter: SUN, Shaojun (University of Wisconsin Madison (US))

Session Classification: Quantum Computing

Contribution ID: **31** Type: **not specified**

GPU Usage Status & Plans in ATLAS

Thursday 23 January 2020 09:25 (15 minutes)

Presenter: KRASZNAHORKAY, Attila (CERN)

Session Classification: Computing Architectures for ML, Data Acquisition and Processing

Contribution ID: **32** Type: **not specified**

LHCb Machine Learning Challenges

Thursday 23 January 2020 10:15 (15 minutes)

Presenter: USTYUZHANIN, Andrey (Yandex School of Data Analysis (RU))

Session Classification: Computing Architectures for ML, Data Acquisition and Processing

Contribution ID: **33**   Type: **not specified**

WinCC Open Architecture Next Generation Archiver (NGA)

Wednesday 22 January 2020 11:40 (15 minutes)

Presenter: HENNESSEY, Anthony (CERN)

Session Classification: Computing Architectures for ML, Data Acquisition and Processing

Contribution ID: **34**   Type: **not specified**

Solving NP-hard combinatorial problems via quantum computing

Wednesday 22 January 2020 17:20 (20 minutes)

Presenter: Prof. WANG, Jingbo

Session Classification: Quantum Computing

Contribution ID: **35**   Type: **not specified**

Event Classification with Quantum Machine Learning

Wednesday 22 January 2020 16:35 (15 minutes)

Presenter: TERASHI, Koji (University of Tokyo (JP))

Session Classification: Quantum Computing

Contribution ID: **36** Type: **not specified**

A Quantum Graph Neural Network Approach to Particle Track Reconstruction

Wednesday 22 January 2020 16:50 (15 minutes)

Presenter: TUYSUZ, Cenk (Middle East Technical University (TR))

Session Classification: Quantum Computing

Contribution ID: **37**   Type: **not specified**

Caching and Processing Wide, Dense, Jagged HEP Data in Apache Spark with Laurelin and Coffea

Wednesday 22 January 2020 15:15 (15 minutes)

Presenter: MELO, Andrew Malone (Vanderbilt University (US))

Session Classification: Computing Architectures for ML, Data Acquisition and Data Processing

Contribution ID: **38** Type: **not specified**

DL analysis on wearable devices

Thursday 23 January 2020 14:55 (15 minutes)

Presenter: FERRARI, Anna (Milano Bicocca)

Session Classification: Working with other Sciences

Contribution ID: **39**   Type: **not specified**

Oracle Autonomous Database and analytics technologies and CERN control systems

Presenters: MASSON, Albert (CERN);   MARTIN MARQUEZ, Manuel (CERN)

Session Classification: Data Center Technologies

Contribution ID: **40** Type: **not specified**

Open Days ticket reservation system development and maintenance

Thursday 23 January 2020 11:45 (15 minutes)

Presenter: KOZLOVSZKY, Viktor (CERN)

Session Classification: Data Center Technologies

Contribution ID: **41** Type: **not specified**

First experience of CMS reconstruction with OneAPI

Thursday 23 January 2020 09:40 (10 minutes)

Presenter: BOCCI, Andrea (CERN)

Session Classification: Computing Architectures for ML, Data Acquisition and Processing

Contribution ID: **42**   Type: **not specified**

Knowledge Transfer and Medical Applications at CERN

Thursday 23 January 2020 14:00 (15 minutes)

Presenter: CIRILLI, Manuela (CERN)

Session Classification: Working with other Sciences

Contribution ID: **43**   Type: **not specified**

Fast Simulation with GANs

Wednesday 22 January 2020 12:25 (15 minutes)

Presenter: VALLECORSA, Sofia (CERN)

Session Classification: Computing Architectures for ML, Data Acquisition and Processing

Contribution ID: 44 Type: **not specified**

HEP Workflows as Benchmarks of computing architectures

Wednesday 22 January 2020 14:45 (15 minutes)

Presenter: GIORDANO, Domenico (CERN)

Session Classification: Computing Architectures for ML, Data Acquisition and Data Processing

Contribution ID: 45 Type: **not specified**

OpenQKD - European Quantum Key Distribution Testbed

Wednesday 22 January 2020 17:05 (15 minutes)

Presenter: FROEWIS, Florian

Session Classification: Quantum Computing

Contribution ID: **46** Type: **not specified**

Group photo

Wednesday 22 January 2020 12:40 (5 minutes)