Intel oneAPI / AI Workshop

October 25th, 2022

Edmund Preiss

AGENDA - Morning

Accelerated Machine Learning with Intel

1. Introduction: Present the agenda and the speakers – **Edmund Preiss**

2. 9:10AM – 9:45:AM: **Introduction to AI Domains and Overview of Intel Hardware and Software acceleration for AI**, Dr. Séverine Habert

3. 9:45AM- 10:30AM: **How to accelerate Classical Machine Learning on Intel Architecture**, Roy Allela

   Break (15 min)

4. 10:45AM - 11:30AM: **Enhance your Experimentation with SigOpt,** Tobias Andreason

5. 11:30AM-12:15AM: **Federated Learning**, Walter Riviera

   Lunch break (1h15)

AGENDA - Afternoon

Accelerated Deep Learning with Intel

1. <u>1:30PM-2:15PM</u>**: Optimize Deep Learning on Intel – Same code just faster!**, Akash Dhamasia

2. <u>2:15PM-2:45PM:</u> **AI-driven multiphysics HPC applications on Intel architecture,** Dr. Massoud Rezavand

   Break   15min

1. <u>3:00PM-3:45PM</u>: **Introduction to Neural Network Compression Techniques**, Dr. Nikolai Solmsdorf

2. <u>3:45PM-4:30PM</u>: **Easily speed up Deep Learning inference – Write once deploy anywhere!,** Vladimir Kilyazov

   Wrap up /Q+A   5min

Intel® oneAPI Toolkits

A complete set of proven developer tools expanded from CPU to XPU (accelerators)

Intel® oneAPI **Base** Toolkit

A core set of high-performance libraries and tools for building C++, SYCL and Python applications

Add-on **Domain-specific** Toolkits

Intel® oneAPI Tools for HPC

Deliver fast Fortran, OpenMP & MPI applications that scale

Intel® oneAPI Tools for IoT

Build efficient, reliable solutions that run at network's edge

Intel® oneAPI AI Analytics Toolkit

Accelerate machine learning & data science pipelines with optimized DL frameworks & high-performing Python libraries

Intel® oneAPI Rendering Toolkit

Create performant, high-fidelity visualization applications

Toolkit **powered by oneAPI**

OpenVINO™

Intel® Distribution of OpenVINO™ Toolkit

Deploy high performance inference & applications from edge to cloud

Latest version available 2022.1

Call to Action

- **Data Scientists**
  - Make use of the performance optimized Intel AI tools
    - Intel oneAPI AI Analytics Toolkit
    - OpenVINO
- **Data Centre Admins**
  - Prepare and Update your data center with optimized Intel AI Tools to serve your users
- **Data Scientists /Users**
  - Consider AI Project Collaboration with Intel (Proof of Concept)
  - Feel free to approach Intel contacts (organizer and trainers)

intel.