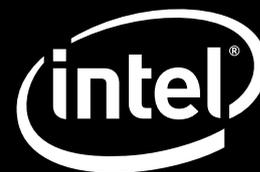# INTEL® AI DEVELOPER HANDS-ON WORKSHOP 2020

Agenda*

09:00 **Keynote: Accelerate your AI journey from data to insights**
Hear how you can use the latest Intel® AI portfolio to transform huge amounts of data into valuable insights that can be applied in your journey to AI success.

09:30 **Up Up and Away: How to use the latest Intel® Xeon® processors to give your AI applications a significant boost.**
In this session we show how you can use the latest Intel® Xeon® processor - the Intel® Xeon® scalable processor 2nd generation - to give a significant boost to your AI applications; lower your cloud costs; and benefit from the resulting improved power-performance ratio.

10:00 **Up Up and Away:** Hands-on lab - Part 1
In this hands-on lab we demonstrate basic steps for data preprocessing and training a simple image classification model on Intel® Xeon® processors. With the trained model we look at the topic of 'Model Quantization'. We will use calibration tool to quantize the model to Int8 so we can utilize Intel® Deep Learning Boost (DLBoost) and then rerun the inference on the same dataset.

10:30 Break

11:00 **Up Up and Away:** Hands-on lab - Part 2
Continuation from Part 1 of the lab.

12:30 Lunch

13:30 **Guest Talk: Deploying Machine Learning at Petascale on Secure Large Scale HPC production systems with Containers**
The ever-increasing need for computational power to train complex models to tackle "real world" scientific problems, requires High Performance Computing (HPC) resources to efficiently compute and scale complex models across thousands of nodes. In this presentation we describe the issues associated with the deployment of AI frameworks on secure HPC systems and how we successfully trained a 3D-GAN network with petaflop performance on a large scale HPC production system at LRZ (Leibniz Rechenzentrum).

14:15 **The new Intel® Parallel Studio 2020: Its significance for Data Scientists and Machine Learning developers.**
Now in its 12th year, the Intel® Parallel Studio is a suite of 10+ best-in-class tools and performance libraries which helps developers optimize code for the latest multicore and many core Intel® Architecture. Learn how you can leverage the power of this tool suite in your AI / ML projects.

14:45 **The new Intel® Parallel Studio 2020:** Hands-on lab - Part 1
Learn how to use optimized Python** and Libraries, such as ScikitLearn, and the Intel® pyDAAL library
to produce optimized classical Machine Learning code that run efficiently on Intel® Architecture.
We also show how you can generate your own optimized Python** libraries to give spectacular
performance.

15:15 Break

15:45 **The new Intel® Parallel Studio 2020:** Hands-on lab - Part 2
Continuation from Part 1 of the lab.

16:45   **AI Research at Intel: Training Multiscale CNN for Large Microscopy Image Classification
in One Hour**
"Intel® AI Research is pushing the limits of Artificial Intelligence and Computing at every level, from
atomic physics to data-center orchestration. We make big bets and take a systems view of AI: our
research spans foundational work in machine learning algorithms and computer architecture to
applied research in computer vision, autonomous driving, and distributed learning systems"

17:30 Networking