Texas A&M
Intel AI Analytics Toolkit Training Agenda
July 13th 2023
2:30 – 5:00 Central Time Zone
South Shore Harbour Resort and Conference Center – Amphitheater Room

**oneAPI - AI Analytics Toolkit – 20 min**
- Overview
- XPU support since 2023.1

**Hands-On Environment Setup**

**Intel Optimization for PyTorch on XPU – 60 min**
- **Skill Level** – High level understanding of Deep Learning concepts, PyTorch beginner level
- Overview XPU optimizations from IPEX – 5 min
- Exercise complete with instructor – 20 min – all available on GPU.
  - IPEX optimizations
  - BF16 vs FP32
  - TorchScript
  - Profiling, Validating Output
  - Model Zoo (Exercise URL -
  - Individual time to complete exercise, Q&A – 5 min.
  - Expected Outcome: learn how to leverage optimizations from Intel Extension for PyTorch and see the performance benefits with minimal code changes.

**BREAK**
Intel Optimizations for TensorFlow on XPU – 60 min

- **Skill Level** – High level understanding of Deep Learning concepts, TensorFlow beginner level
- Overview types of XPU optimizations for TensorFlow/ITEX – 5 min
- Exercise complete with instructor – 20 min - all available on GPU
  - Getting Started sample
  - Data Type (BF16 / FP16)
  - Profiling analysis
- Individual time to complete exercise, Q&A – 5 min.
- Expected Outcome be able to see the performance benefit from using Intel Optimizations for TensorFlow over stock TensorFlow framework.

Distributed DL on XPU – 15 min

- Overview Horovod with TensorFlow on PVC
  - Scale up (multi-cards) via Horovod.
- Overview DDP with PyTorch on PVC
  - Scale up (multi-cards) via DDP.

Question and Answer – Until finished.