**Tutorial: Harp-DAAL for
High Performance Big Data Machine Learning**

**9:45 am – 12:00 pm on November 12, 2017, HPCDC Conference, Denver, Colorado**

**Objective**

### In this tutorial, you will learn about scalable Machine Learning on HPC-Cloud. Harp (Hadoop plugin) provides communication patterns and invokes Intel® Data Analytics Acceleration Library (DAAL) with the fastest machine learning algorithms on Xeon™ or Xeon Phi™ architectures.

****

|  |  |  |
| --- | --- | --- |
| **For Developers** | **For Users** | **AI & You** |
| We introduce Harp-DAAL, a high-performance machine learning framework.  | Simple Python interface and run scalable machine learning applications on Google Cloud.  | This tutorial clarifies what type of hardware and software is needed for scalable machine learning. |
|  |  |  |

**Hands-on examples**

|  |  |  |
| --- | --- | --- |
|  | **Examples** | **Learning Tasks** |
| **Applications** | Image Clustering with Kmeans | Classification |
| Text Categorization with Naïve Bayes | Classification |
| Recommender System with MF-SGD | Recommender System |
| Naive Bayes | Classification |
| Neural Network |
| Linear Regression | Regression |
| **Algorithms** | Ridge Regression |
| K-means  | Clustering |
| Matrix Factorization(SGD) | Recommender System |
| Matrix Factorization(ALS) |
| SVD, PCA, QR | Dimension Deduction |
| Moments, Covariance  | Statistics |

Tutorial website: https://dexterrules.github.io/SC-Demo-17/SC-Demo.html