Machine Learning CWP

Sergei V. Gleyzer

IML Workshop
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• HSF CWP Webpage
• HSF CWP-ML Google group
• HSF CWP-ML Google doc
CWP-ML Timeline

• Time-scale:
  – three months

• Part I:
  – HSF San Diego Workshop

• Part II:
  – Today

• Part III:
  – DS@HEP

• CWP Workshop in June
Scope: Machine Learning algorithms play an important role in many facets of today’s HEP data analysis, data-processing and detector applications. Machine-learning tools already form an important part of HEP software. To overcome the challenges related to data-processing and analysis of upcoming very large HEP data-sets, it is important to plan ahead for how HEP machine-learning software and tools develop. This group will work on both identifying the challenges related to machine-learning software in HEP and proposing possible solutions and a community roadmap towards better HEP-ML software.
Today

• Look over questions
• Discuss the roadmap towards possible answers
• Edit individual sections
Groups

1. External and Internal ML Tools
2. New applications of ML and R&D
3. Bridges to other communities
4. Resources and related: Interactive, HPC, Cloud, GPUs, Storage
5. Training the community in ML
Let’s begin!
1. Introduction

• Motivation
• Machine Learning and HEP
2. ML Software and Tools

- Status
- Software Methodology
- Programming Languages
- I/O
- Parallelization
- Interactivity
- Interfaces to acceleration hardware
- Sustainability
3. Computing Resources for ML

- Data Storage
- Training
- Application
- Data Availability