

Discussion around the GT 5

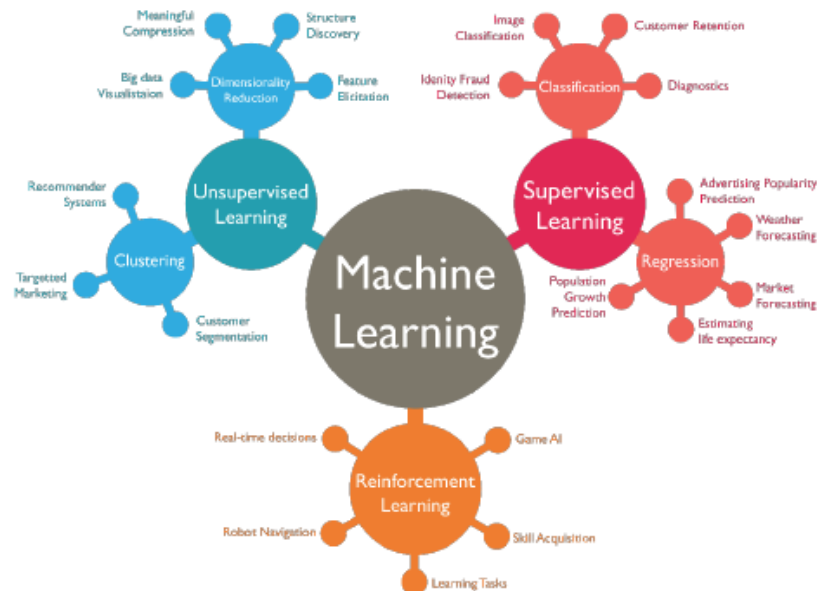
Research and Development

2020

- Success of the GT5 workshop on Machine Learning

Outcome

- Positive feedback
- Created awareness
- Impulse for upcoming events
- Creating an IN2P3 network?



Ideas proposed by GT5 coord.

Workshop topics

Hardware:

- CMOS Monolithic Active Pixel Sensor (CMOS MAPS)
- Exotic target for direct reactions (tritium, cryogenic $^3\text{-}^4\text{He}$, p, d)

DAQ:

- High-resolution time-stamped trigger (GTS, SMART, White Rabbit,...)

Data Processing:

- Analysis and simulation of PSA for charged particle

Transverse:

- e-RI scattering (e-acc., RI-production, trapping, detection)

Initial ideas proposed by GT5 coord.

Initial ideas

Hardware:

- LaBr3/CeBr3 for gamma,neutron and charged particle detection
- Common ASIC dev. , cold ASIC

DAQ:

- Distributed DAQ system

Data processing:

- Common analysis & simulation framework
- **BigData**, life-cycle, open data
- Computing technology (multi-threading, GPU&FPGA accelerations,...)

Overlap with some IN2P3 network:

- Hardware, DAQ

Fill the gap for other:

- **Data processing**

=> If a need emerges, coordinate GT5 with in2p3 network to organize an event

GT5: Research and Development

Goals

- ✓ Identifying common R&D themes
- ✓ Educating about new technologies
- ? Building collaboration based on common technologies

Strategy

- ✗ Receiving inputs from other GT
- ✓ Make our own propositions

How to improve?

Conclusion & Perspectives

- **2019 Successful GT5 workshop on Machine Learning**

→ Positive feedback, impulse for upcoming events, created awareness

- **New ideas of focused workshops for 2021 proposed by GT5:**

→ **Hardware** (new technologies for n, gamma, and charge particle detection, common ASICs, etc.), **DAQ**

(common DAQ etc.), **Data processing** (common analysis, Big data, GPU, FPGA), **Transverse** (e-RI scattering selected for a workshop in 2021), **R&D in common** (ELI-NP etc)

- **Overlap with existing workshops → need of cooperation**

Coordinate GT5 with other networks to organize events

- **Bring together experimentalist of different fields →**

Transversal action and mutual needs with other GTs.

- **Extend to the international community**

- **Questions asked 1-2 times/year on the highlights to different groups;**