**AI for cosmology**

There is a large potential for AI in cosmology in sight of the increasing data volumes expected from current and future surveys and the complexity of this data. Current research on AI methods in cosmology include: the timely discovery and classification of cosmological probes such as type Ia supernovae, obtention of measurements for cosmological analyses such as photometric redshifts and systematics and biases in cosmological analyses such as the impact of blending in weak lensing constraints. With upcoming cosmology surveys as LSST and Euclid, development on AI applications will continue to rise on the field.

AI analysis methods can also enable science without time-consuming data acquisition techniques such as spectroscopy.  Photometric redshifts and typing of supernovae with photometry only are prime examples. These complex tasks require the development of both state-of-the-art ML algorithms, frameworks to apply them as well as the creation of suitable datasets for testing. A framework that is currently being designed for the next decade to enable science with LSST and other messengers is the Fink broker. This broker is a IN2P3 initiative and is designed with the latest R&D tools to efficiently process the large data volumes expected from LSST and use state-of-the-art active learning and bayesian networks for photometric classification. IN2P3 has also a strong participation in the creation of datasets for testing such as the recent PlAsTiCC challenge where a public competition was organised to classify different supernova types using only photometric data. This challenge not only had a strong IN2P3 involvement, but also established a bridge with data scientists around the world.