eur PLANET2024
Research Infrastructure

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Deliverable D10.8

Deliverable Title:	Tutorial on Machine Learning and Basic How To's
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Lead beneficiary:	INAF
Contributing beneficiaries:	KNOW
Document status:	Final

Start date of project:	01 February 2020
Project Duration:	54 months
Co-ordinator:	Prof Nigel Mason, University of Kent

Links to Tutorials for all scientific cases and ML techniques used:

a. Mercury Surface Classification

https://github.com/epn-ml/MESSENGER-Mercury-Surface-Cassification-Unsupervised_DLR/blob/master/notebooks/mascs_classification_tutorial.md

b. ICME Detection

https://github.com/epn-ml/EPSC2021-ICME-workshop/blob/main/MachineLearningPipeline.ipynb

c. Mercury Boundary Crossing

https://github.com/epn-ml/EPSC2021-MercuryBoundaries-workshop

d. GMAP Deep Landforms

https://github.com/epn-ml/DeepLandforms/tree/main/Tutorial

e. IAP Boundary Crossings

https://github.com/epn-ml/Tutorial_IAP_Boundaries/blob/main/IAP_Pipeline.ipynb

f. Pits

https://github.com/dlecorre387/Pit-Topography-from-Shadows/blob/master/scripts/PITS_tutorial.ipynb

g. Chorus Wave Segmentation

https://github.com/epn-ml/Chorus-Wave/tree/main/notebooks

h. GMAP mound detection

https://github.com/epn-ml/Workshop-GMAP

k. INAF spectral use case

 https://github.com/epn-ml/spectral-analysis-planetary-minerals

We used machine learning to identify the spectral properties of minerals. This approach helps efficiently analyse complex and wide spectral information, making the process less time-consuming and improving accuracy.