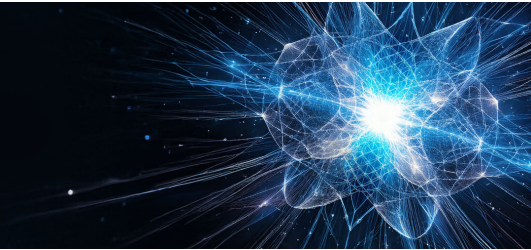


# Machine Learning for Physics

Machine Learning  
for Physics



## Report of Contributions

Contribution ID: 1

Type: **not specified**

## **Introduction to Machine Learning for Physics (lecture)**

*Thursday 13 March 2025 09:00 (1 hour)*

**Presenter:** Prof. VISCHIA, Pietro (Universidad de Oviedo and Instituto de Ciencias y Tecnologías Espaciales de Asturias (ICTEA))

Contribution ID: 2

Type: **not specified**

## **Automatic Differentiation and Supervised Learning (lecture)**

*Thursday 13 March 2025 10:30 (1h 30m)*

**Presenter:** Prof. VISCHIA, Pietro (Universidad de Oviedo and Instituto de Ciencias y Tecnologías Espaciales de Asturias (ICTEA))

Contribution ID: 3

Type: **not specified**

## **Exercise 1: Classification and anomaly detection in S-top searches**

*Thursday 13 March 2025 13:30 (2 hours)*

**Presenter:** SILVA, Cristóvão (LIP)

Contribution ID: 4

Type: **not specified**

## **Exercise 2: Network structure and inductive bias in Higgs physics (ttH)**

*Thursday 13 March 2025 16:00 (2 hours)*

**Presenter:** Prof. VISCHIA, Pietro (Universidad de Oviedo and Instituto de Ciencias y Tecnologías Espaciales de Asturias (ICTEA))

Contribution ID: 5

Type: **not specified**

## **Into the belly of Transformers: mathematical formalism and inner workings (lecture)**

*Friday 14 March 2025 09:00 (30 minutes)*

**Presenter:** Prof. VISCHIA, Pietro (Universidad de Oviedo and Instituto de Ciencias y Tecnologías Espaciales de Asturias (ICTEA))

Contribution ID: 6

Type: **not specified**

## **Exercise 3: Flavour tagging with Transformers**

*Friday 14 March 2025 09:30 (1 hour)*

**Presenter:** OCHOA, Inês (LIP)

Contribution ID: 7

Type: **not specified**

## **Wrap-up, Awards, and Group Photo**

*Friday 14 March 2025 18:00 (30 minutes)*



Contribution ID: 8

Type: **not specified**

## Unsupervised learning (lecture)

*Friday 14 March 2025 11:00 (1 hour)*

**Presenter:** Prof. VISCHIA, Pietro (Universidad de Oviedo and Instituto de Ciencias y Tecnologías Espaciales de Asturias (ICTEA))

Contribution ID: 9

Type: **not specified**

## **Exercise 4: probing the substructure of boosted jets with unsupervised learning**

*Friday 14 March 2025 13:30 (2 hours)*

**Presenters:** OCHOA, Inês (LIP); Prof. VISCHIA, Pietro (Universidad de Oviedo and Instituto de Ciencias y Tecnologías Espaciales de Asturias (ICTEA))

Contribution ID: **10**

Type: **not specified**

## **Data challenge!!!**

*Friday 14 March 2025 16:00 (2 hours)*

**Presenters:** SILVA, Cristóvão (LIP); OCHOA, Inês (LIP); Prof. VISCHIA, Pietro (Universidad de Oviedo and Instituto de Ciencias y Tecnologías Espaciales de Asturias (ICTEA))