



ChEESE

05 - 07 NOVEMBER, 2024

TRAINING

Delegació CSIC Catalunya, Carrer de les Egipcíaques, 15, Ciutat Vella, Barcelona, Spain.



Artificial Intelligence and Machine Learning for Geosciences

DAY 1 - 05 NOVEMBER

| SESSION 1 | | |
|-------------|--|--|
| 10:00-10:10 | Introduction - practical information | Arnau Folch Alexandre Fournier |
| 10:10-11:40 | Machine learning: nonlinear regression for turbidity sensor calibration (Scikit-Learn, N1) | Léonard Seydoux + supporting cast (GM, AF, HF) |
| 11:40-12:00 | Coffee break* | |
| 12:00-13:30 | Machine learning: nonlinear regression for turbidity sensor calibration (Scikit-Learn, N1) | Léonard Seydoux + supporting cast (GM, AF, HF) |
| 13:30-14:30 | Lunch Break* | |
| SESSION 2 | | |
| 14:30-16:00 | Machine learning: classification of Lidar points cloud (Scikit-Learn, N3) | Léonard Seydoux + supporting cast (GM, AF, HF) |
| 16:00-16:15 | Coffee break* | |
| 16:15-17:50 | Machine learning: classification of Lidar points cloud (Scikit-Learn, N3) | Léonard Seydoux + supporting cast (GM, AF, HF) |
| 20:00-22:00 | Social Dinner* | Mussol Aragó (Calle Aragón 261, Barcelona) |



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DAY 2 - 06 NOVEMBER

| SESSION 1 | | |
|-------------|--|--|
| 10:00-11:30 | Deep learning: first steps with MNIST (Pytorch) | Léonard Seydoux + supporting cast (GM, AF, HF) |
| 11:30-11:50 | Coffee break* | |
| 11:50-13:30 | Deep learning: first steps with MNIST (Pytorch) | Léonard Seydoux + supporting cast (GM, AF, HF) |
| 13:30-14:30 | Lunch Break* | |
| SESSION 2 | | |
| 14:30-16:00 | Deep learning: transfer learning with PhaseNet (Pytorch) | Léonard Seydoux + supporting cast (GM, AF, HF) |
| 16:00-16:15 | Coffee break* | |
| 16:15-17:50 | Deep learning: transfer learning with PhaseNet (Pytorch) | Léonard Seydoux + supporting cast (GM, AF, HF) |



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Artificial Intelligence and Machine Learning for Geosciences

DAY 3 - 07 NOVEMBER

| SESSION 1 | | |
|-------------|--|--|
| 10:00-11:30 | Differentiable physics: Burgers equation (JAX) | Hugo Frezat + supporting cast (GM, AF, LS) |
| 11:30-11:50 | Coffee break* | |
| 11:50-13:30 | Differentiable physics: Burgers equation (JAX) | Hugo Frezat + supporting cast (GM, AF, LS) |
| 13:30-14:30 | Lunch Break* | |
| SESSION 2 | | |
| 14:30-16:00 | Open class, work on own data, revisit session | Alexandre Fournier Geneviève Moguilny Hugo Frezat Léonard Seydoux |
| 16:00-16:20 | Coffee break* | |
| 16:20-18:00 | Open class, work on own data, revisit session | Alexandre Fournier Geneviève Moguilny Hugo Frezat Léonard Seydoux |

*Each participant is responsible for covering their own costs.