MAI

Deep Learning

Autonomous lab

Embeddings

Barcelona Supercomputing Center
Centro Nacional de Supercomputación
UNIVERSITAT POLITÈCNICA DE CATALUNYA
BARCELONATECH

Dario Garcia Gasulla
dario.garcia@bsc.es

Rules

- Work is done in pairs. Agree among yourselves.
- Evaluation is based on a 40 min. live interview. Score is individual.
- Both students can be asked about any aspect of their work, and are expected to answer
  - You can split the work, but be sure to understand everything done so that you can explain it and defend it in the interview

HIGH PERFORMANCE ARTIFICIAL INTELLIGENCE

Barcelona Supercomputing Center
Centro Nacional de Supercomputación

The work

Operations with embeddings. Target must be the same as lab1.

- Explore the impact of pre-training
  - Different sources
  - Different transfer learning configurations
  - Try fine-tuning, feature extraction, or both
- Try to beat your original performance

HIGH PERFORMANCE ARTIFICIAL INTELLIGENCE

Barcelona Supercomputing Center
Centro Nacional de Supercomputación

Interview

- During the interview, you will have to explain the experiments conducted.
- Bring support tables and figures, for example:
  - Dataset info: Size, splits, class distributions, dataset samples, technical properties
  - Training results: Loss and accuracy curves
  - Performance reports: Accuracies, confusion matrices
- Which of these are relevant will depend on your experiments! No text.

HIGH PERFORMANCE ARTIFICIAL INTELLIGENCE

Barcelona Supercomputing Center
Centro Nacional de Supercomputación

Evaluation

- You will be evaluated based on your understanding of DL methods
- On the coherency of their use in your work
- On the correct assessment of the results, and on the decisions made as a result

- You have to deliver your trained models through Raco
  - h5 file (trained weights)
  - json file (architecture)
  - txt file (short description of the data used for training/val)

HIGH PERFORMANCE ARTIFICIAL INTELLIGENCE

Barcelona Supercomputing Center
Centro Nacional de Supercomputación

Doodle

- To be published in Raco
- Choose a slot for the interview.
- One per pair.
- Specify both names
- Interviews to take place at Omega-207
- Bring a laptop to show the support material

HIGH PERFORMANCE ARTIFICIAL INTELLIGENCE

Barcelona Supercomputing Center
Centro Nacional de Supercomputación