

# Deep Learning

Computer Science Master Degree

## Projects

Nicoletta Noceti

[Nicoletta.noceti@unige.it](mailto:Nicoletta.noceti@unige.it)

# Rules of the game

## Exam

The final exam is oral:

- A question on the project 50%
- A question on the rest (i.e. on topics not covered by the project) 50%

# Rules of the game

## Project

- Decide groups (2 components)
- Pick a paper from <https://paperswithcode.com/sota> → You may refer to the main topics of the course (see next slides)
- Communicate your proposal of group+paper using the dedicated form (on AW) [Deadline May 22<sup>nd</sup>](#)
  - In the form you'll be asked **why you picked that paper** → **Reason on the motivations**
  - We will get back to you in the days after to confirm whether your choice is appropriate, so wait before starting the work

→ You can't find a paper? Drop us a line, and we'll help you ←

# Rules of the game

## Project

### What does it mean “appropriate”?

- It must cover a topic of this course
- The focus must be on Machine Learning/Deep Learning methodologies, so pay attention to avoid strong overlaps with other courses (e.g. Computational Vision) → For instance, **Representation Learning** is ok, **Object Detection** is not
- It must be an accessible reading

# Topics

**Neural  
Networks**

**Diffusion  
Models**

**Semi-  
supervised  
Learning**

**Graph  
Neural  
Networks**

**Recurrent  
Neural  
Networks**

**Domain  
Adaptation**

**Transformers  
and self-  
attention**

**Autoencoders**

**Unsupervised  
Learning**

**Representation  
Learning**

**Generative  
Adversarial  
Networks**

**Transfer  
Learning**

**Convolutional  
Neural  
Networks**

**Self-  
Supervised  
Learning**

**LSTMs**

**...**

# Rules of the game

## What to do/submit

- Read the paper, run the code
- Prepare a short pdf report with the following sections:
  - **Summary** → What are the main objectives of the work? Why is the problem interesting? TLDR?
  - **Methodology** → How is the solution structured to reach the goal?
  - **Experiments** → Are the experiments reproducible? What are the main insights from the experimental analysis?
  - **Code** → Is the code easy-to-use and interpretable? Could you run it?
- Submit the pdf AT LEAST one week before the exam session you plan to attend → **This is a strict deadline!! No project → No exam!!**

# UniGe

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