POLITECNICO
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Advances in Deep Learning with Applications in Text and Image Processing

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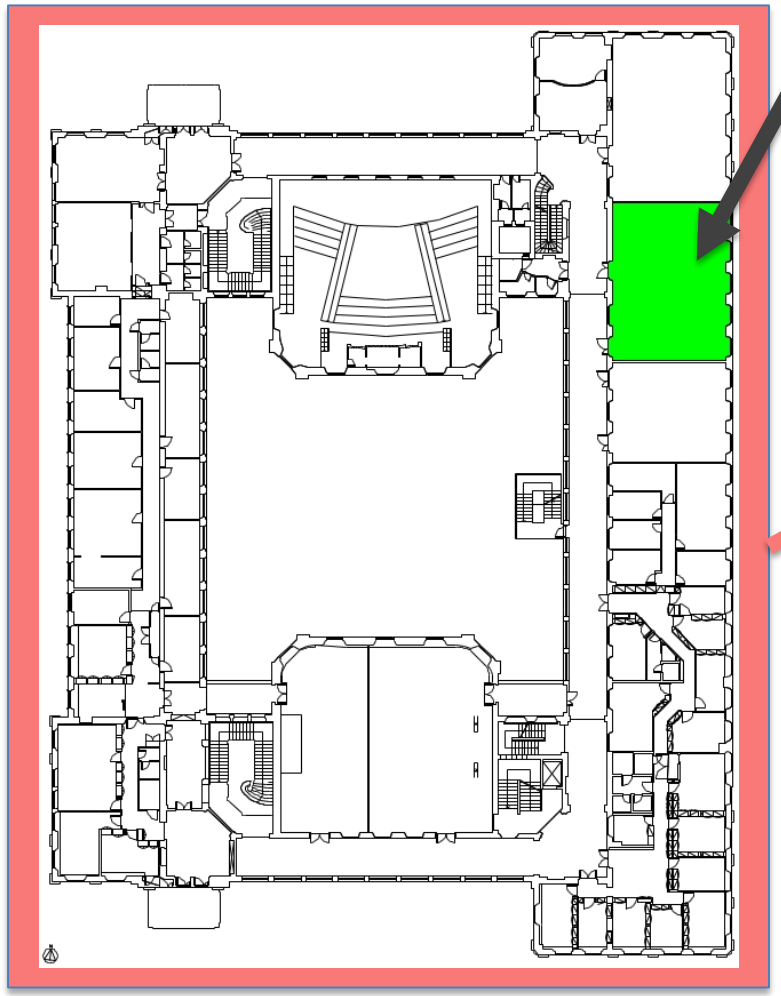
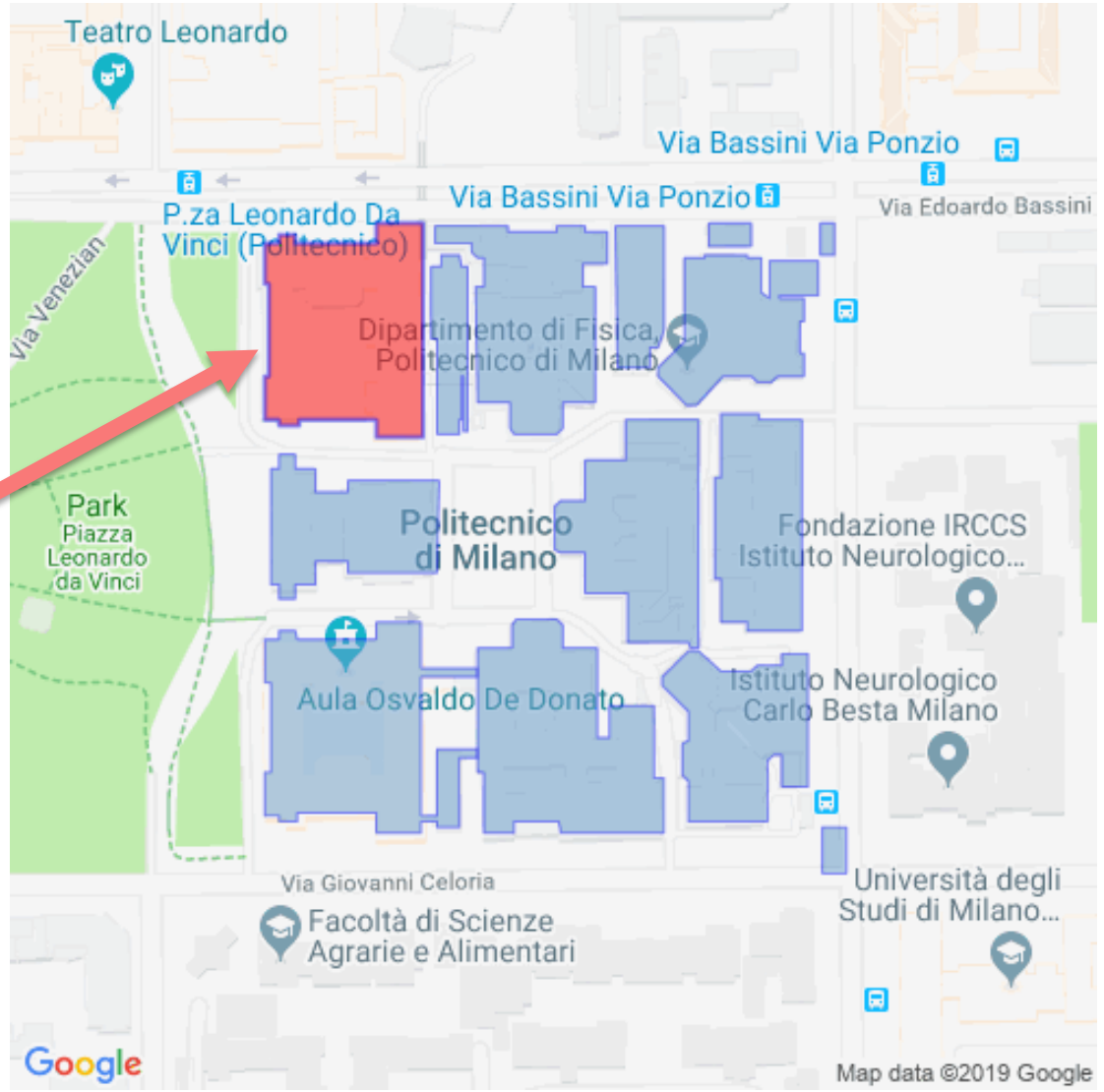
Advances in Deep Learning with Applications in Text and Image Processing

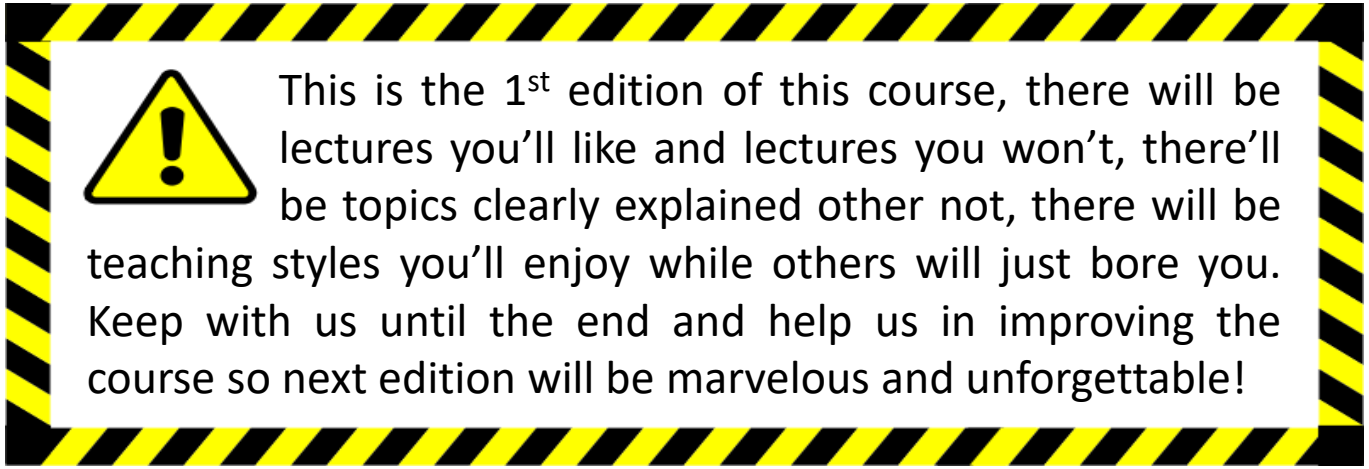
COURSE MOVED TO ROOM **N.1.2** !!!!





Course Objectives

"Provide the students with the skills to understand, become familiar, and use for their research the most successful architectural patterns in deep neural networks. This is intended as an advanced course, thus proficiency in neural networks and basic notions of non linear optimization, i.e., backpropagation, and image/signal processing are assumed as pre-requirement to the participant."



The Course Program

Date	Deep Learnig Classes	Time	Classroom / Teacher
07/02/2019	**Recurrent deep architectures and NLP**	9:30 – 13:30	N.1.2 / Matteucci
14/02/2019	**Convolutional Neural Networks for advanced visual recognition tasks**	9:30 – 13:30	N.1.2 / Boracchi + Giusti
21/02/2019	**Unsupervised deep models**	9:30 – 13:30	N.1.2 / Boracchi + Giusti
28/02/2019	**Graph Models**	9:30 – 13:30	Sala Conferenze Emilio Gatti Ed. 20 / Matteucci
14/03/2019	**Seminars on RNN and CNN**	9:30 – 13:30	TBC / Matteucci + Boracchi
28/03/2019	**Seminars on Unsupervised and Graphs**	9:00 – 18:00	Sala Conferenze Emilio Gatti Ed. 20 / Matteucci + Boracchi

Course Logistics

All course information about the course is available on the websites

- https://chrome.deib.polimi.it/index.php?title=Advances_Deep_Learning

Attendance is mandatory and checked with signatures (after morning break):

- PhDs are committed to attend 75% lectures from the course lectures
- Master students do not have such strict requirement, but we advice you to sign the paper every lecture you attend anyway
- If you need just an attendance certificates we will issue it based on the attendance signatures we take during the lectures
- Seminar days are counted as lectures so you have to attend those as well to reach the 75% threshold

Course Evaluation (PhD)

The course is evaluated with a seminar presentation on one of the topics we have presented during classes:

- Presentations have to be given in one of the days we have already booked on the schedule
- Subjects have to be agreed with the teachers and be based on the suggested papers
- Any variation, e. g., different set of papers, should be agreed with the teachers
- Presentation can be substituted with a project … but why?
- …

Course Evaluation for MS Students (last year course)

The course is evaluated with a project using Tensorflow and presented in a public [TBC] in the form of a poster as if it was in a conference.

Do not blame me, the idea came to one of your colleagues!!

It counts for IC if it is about images

- You have to chose a dataset or a problem
- Design/develop the model in tensorflow
- Train, tune, evaluate the model
- Compare the result against the state of the art or a baseline
- Write a short paper about your work (up to 6 pages double column)
- Give a spotlight presentation of the work in public (3 min) [TBC]
- Present the poster in public (3 hours) [TBC]

If you think this is weird you should wait for the grading procedure ...

Course Evaluation for MS Students (last year course)

The grade will be given by:

- Prof. Matteo Matteucci (responsible for the grading)
- Prof. Giacomo Boracchi (grading consultant for the course)

The grade will be based on:

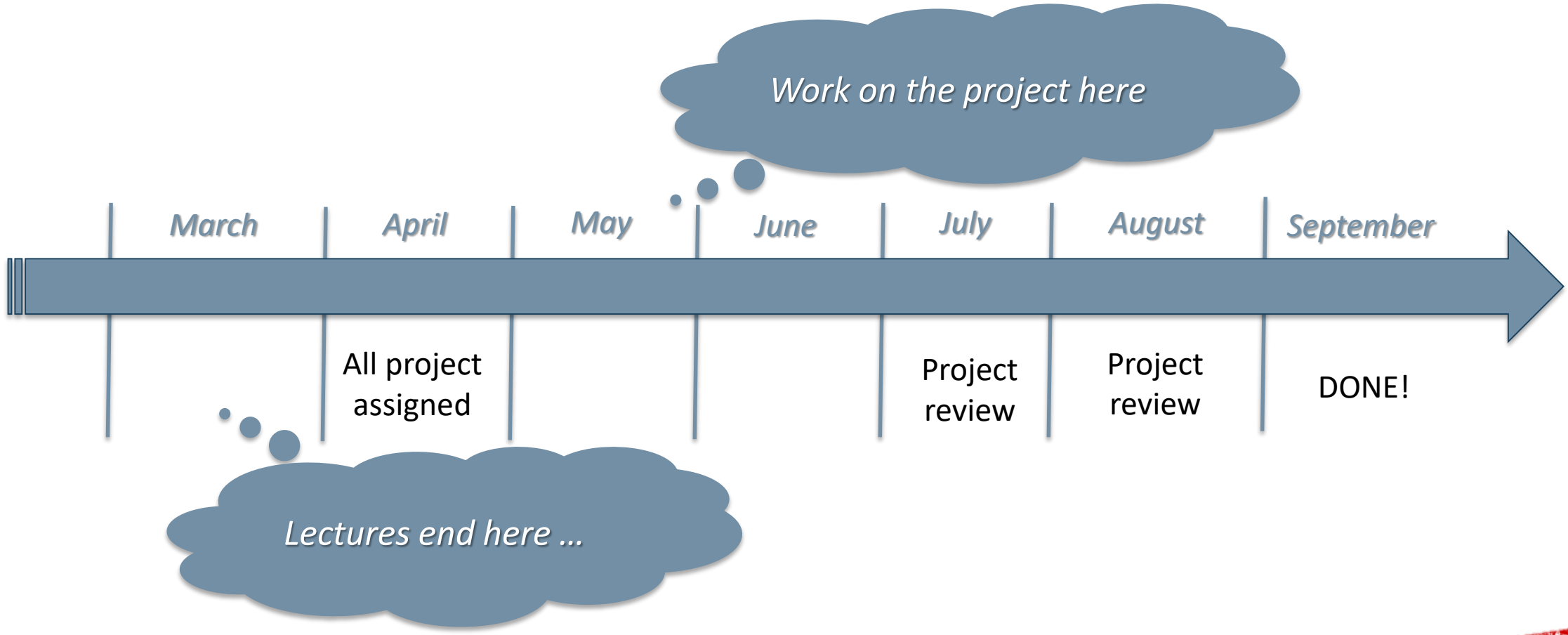
- Double blind review of your paper from other groups
- Your review of some one else paper
- Paper spotlight presentation at a public event [TBC]
- Paper poster presentation at a public event [TBC]
- Per Master student evaluation within the group by PhD student
- Personal communication with the teachers
- Attendance to the course
- ...

Course Evaluation for MS Students (This year course)

The course is evaluated with a project ~~using Tensorflow and presented in a public [TBC] in the form of a poster as if it was in a conference~~.

- You have to chose a dataset or a problem
- Design/develop the model ~~in tensorflow~~
- Train, tune, evaluate the model
- Compare the result against the state of the art or a baseline
- Write a short paper about your work (up to 6 pages double column)
- ~~Give a spotlight presentation of the work in public (3 min) [TBC]~~
- ~~Present the poster in public (3 hours) [TBC]~~
- Discuss the project wit the teachers (up to 30 min. presentation)

Project Evaluation GANTT (still draft)



Ironing out the kinks ...

Some details have not been sorted out yet, we are working on it, stay tuned!

- Projects in groups (?)
- How many people per group (?)
- Computing will be provided (?)
- How many hours per group (?)
- What if you need to graduate earlier (?)
- What if you cannot the day of the seminar(?)
- What if you cannot the day of the seminar(?)
- What if I fail the exam (?)
- ...