Deep learning projects

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Description of the deep learning projects

- These projects constitutes an exploration of deep learning methods and their applications in different fields such as image processing, computer vision, speech processing, social networks, security, etc.

- It provides an overview of the different aspects related to the deep learning field.

- The projects are organized in the form of presentations to be made and presented by the students.

- In addition to state-of-the-art methods (SOTA), students are encouraged to reflect on the issues as well as the perspectives related to the theme addressed.

Rules

- Your **presence** is strongly recommended.
- The course projects will be done **in pairs**.
- Projects must be done with the **Python** language.
- The project is rendered by: (1) a **report**, (2) the **source code** (3) a **presentation**.
- **Late projects** will not be accepted unless special permission is obtained.
- Do a consistent search, do **not copy/paste** from a single reference.
- Do not use existing code without **any modification** or with **minor modification**.
- Use writing software, plagiarism detection, etc. for example: **Grammerly, kilbot, turnitin**.

Project structure

Each project must include, more or less, the following elements:

- **Introduction**
- **State of the art of deep learning approaches**
- **Applications**
- **Research perspectives**
- **Demos using a deep learning framework such as Tensorflow or Pytorch**
- **Conclusion**

Proposed projects

1. Semantic segmentation of drone images
2. Object detection and tracking using deep learning
3. Object detection for aerial imagery
4. UAV imagery for precision agriculture
5. Saliency detection using deep learning methods
6. Domain adaptation for semantic segmentation
7. Semi-supervised semantic segmentation
8. Defect detection for drone imagery
9. Depth estimation for RGB-D images
10. RGB-D Semantic Segmentation
11. Real time Semantic segmentation

Planning

# Students pair	Project
1)	Semantic segmentation of drone images
2)	Object detection and tracking using deep learning
3)	Object detection for aerial imagery
4)	UAV imagery for precision agriculture
5)	Saliency detection using deep learning methods
6)	Domain adaptation for semantic segmentation
7)	Semi-supervised semantic segmentation
8)	Defect detection for drone imagery
9)	Depth estimation for RGB-D images
10)	RGB-D Semantic Segmentation
11)	Real time Semantic segmentation

Thank you!