UMONS
Université de Mons

I-ILIA-202 – ADVANCED DEEP LEARNING

INTRODUCTION

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PLAN

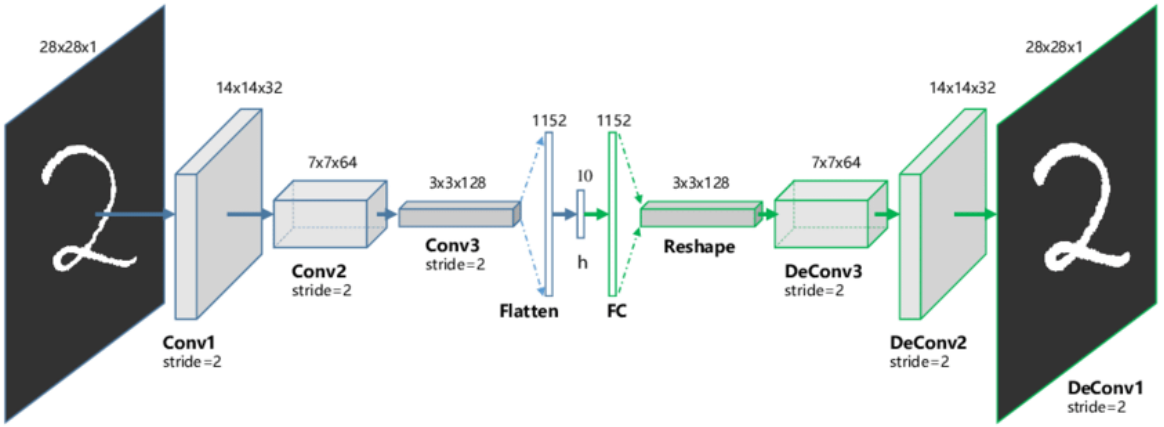
- **Course organization: (1 ECTS)**
  - **Lessons** : 03x2h= 06h
  - **Labs :** (2x 3h) = 06h
  - **TOTAL : 12h (1 credit)**
- **Teaching mode:**
  - **Lessons** are presented in **French/English**
  - **Questions** can be asked in **French**
  - Lab supports **in English** and **questions** can be provided in **French**
- **Evaluation:**
  - Project submission (scientific report + source code)
  - **UE Project** coordinated with **Advanced Machine Learning module**
  - **AA Project** for student registered to **the Master of Energy**

LESSONS

- **Chapter 1 :** Performance analysis and optimization of Deep Neural Networks
- **Chapter 2 :** Recurrent Neural Networks for times series
- **Chapter 3 :** Auto-encoders for Images Segmentation
- **Chapter 4 :** Seminars : Generative AI & Multimodal Learning & eXplainable AI
- **Chapter 5 :** Generative Adversarial Networks "**GAN"** (with lab) : **optional**

Labs

- **2 labs : (2 x 3h)**
  - **Lab 1 :** Recurrent Neural Networks for energy consumption prediction
  - **Lab 2 :** Auto-encoders for Images Segmentation



Project Roadmap (For all)

- **06 December :** publication of the list of projects “**ADL Projects**”;

  - Select the TOP3 projects

  - Submit your TOP3 choices before **10/12/2024**

- **10 December :** project affectation

- **24 January :** submission within **Moodle** of the report of your projects

- **Submission :** provide a scientific **report (8-10 pages) + sources code**

- Projects conducted per **groups of 2 students**

QUESTIONS ?