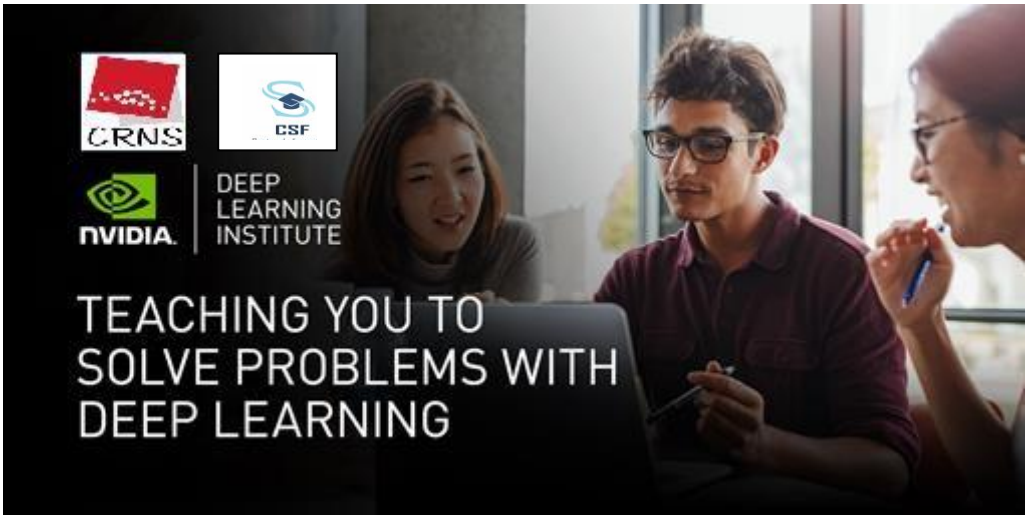
Deep Learning

Certifying training School

Instructor :	Dr. Yousri Kessentini, **Assistant professor at CRNS** **Certified as an official NVIDIA Deep Learning Institute instructor and ambassador**
Teaching Assistants	• Sourour Ammar (Assistant professor at CRNS) • Ahmed Cheikhrouhou (PHD student at CRNS) • Tayeb Benzanati (PHD student at CRNS)
Date :	**2 days**
Certification	Participants in the training school receive : A **certificate of completion** provided by NVIDIA Deep Learning Institute **The number of participants is limited to 60.**
Location:	Digital Research Center of Sfax
Contents:	

The Digital research center of Sfax (CRNS) and NVIDIA Deep Learning Institute (DLI) are excited to announce this practical workshop - Fundamentals of Deep Learning for Computer Vision at CRNS on 2019, exclusively for verifiable students, staff, and researchers from any academic institutions.

In this two-day workshop, you will learn the basics of deep learning by training and deploying neural networks. Build the skill-set and toolbox you need to build your own deep learning solutions through hands-on projects. Learners will:

- Understand general terms and background of deep learning
- Implement common deep learning workflows such as Image Classification and Object Detection
- Manipulate training parameters to improve accuracy
- Modify internal layers of neural networks to adapt to new problems
- Deploy your networks to start solving real-world problems

Workshop Agenda:

Day 1: Fundamentals of Deep Learning for Computer Vision

- 9:00 – 9:30 Intro Lecture
- 9:30 – 12:00 Training and Deploying Deep Neural Networks (coffee break included)
- 12:00 - 14:00 Lunch

- 14:00 - 15:00 Improving Neural Network Performance
- 15:00 - 17:00 Exploring Advanced Workflows (coffee break included)
- 17:00 - 18:00 Assessment/Certification/Next Steps

Day 2: Design and optimization of deep neural network for image recognition using TensorFlow

9:00 – 12h

- Softmax, cross-entropy, mini-batch
- fully connected NN
- Sigmoid vs RELU
- Learning rate decay
- Dropout
- CNN
- Bigger CNN + Dropout

12:00 - 13:00 Lunch

13:00 - 16:00

- Installation
- Google colab

- Anaconda

concepts / terminology:

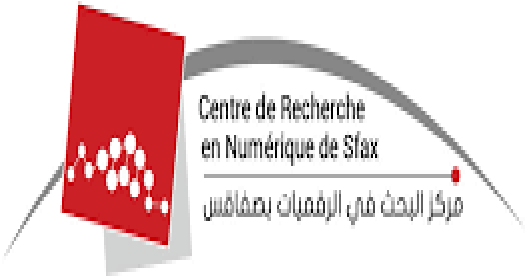
- CNN
- One-hot encoding
- Hyperparameters
- TensorFlow / TensorBoard
- Image recognition
- Overfitting
- Object detection

Pre-Requisites: Technical background and basic understanding of machine learning concepts

IMPORTANT: To reserve your seat, you MUST register at this registration form with a valid email address. Additionally, please follow these pre-workshop instructions:

- You must bring your own laptop in order to run the training.
- A current browser is needed. For optimal performance, Chrome, Firefox or Safari for Macs are recommended. IE is operational but does not provide the best performance.
- Create an account at http://courses.nvidia.com/join
- Ensure your laptop will run smoothly by going to http://websocketstest.com/ Make sure that WebSockets work for you by seeing under Environment, WebSockets is supported and Data Receive, Send and Echo Test all check Yes under WebSockets (Port 80). If there are issues with WebSockets, try updating your browser.

- Please remember to sign in to http://courses.nvidia.com/join using the same email address as for event registration, since class access is given based on the event registration list. Please beware that for the adminstrative reasons, after you register at nvlabs.qwiklab.com, Nvidia

	will use your email address to contact you for the final feedback of the school. **This school is brought to you by:**    Looking forward to seeing you at CRNS.
Registration:	Via the registration form