Fundamentals of Deep Learning (FDL)

ID FDL **Price** CHF 995.—(excl. VAT) **Duration** 1 days

This course is part of the following Certifications

NVIDIA-Certified Associate: Generative AI LLMs (NCA-GENL)
NVIDIA-Certified Associate: Generative AI Multimodal (NCA-GENM)

Prerequisites

An understanding of fundamental programming concepts in Python 3, such as functions, loops, dictionaries, and arrays; familiarity with Pandas data structures; and an understanding of how to compute a regression line.

Course Objectives

By participating in this workshop, you'll:

- Learn the fundamental techniques and tools required to train a deep learning model
- Gain experience with common deep learning data types and model architectures
- Enhance datasets through data augmentation to improve model accuracy
- Leverage transfer learning between models to achieve efficient results with less data and computation
- Build confidence to take on your own project with a modern deep learning framework

Course Content

Introduction

- Meet the instructor.
- Create an account at courses.nvidia.com/join

The Mechanics of Deep Learning

Explore the fundamental mechanics and tools involved in successfully training deep neural networks:

- Train your first computer vision model to learn the process of training.
- Introduce convolutional neural networks to improve accuracy of predictions in vision applications.
- Apply data augmentation to enhance a dataset and improve model generalization.

Pre-trained Models and Recurrent Networks

Leverage pre-trained models to solve deep learning challenges quickly. Train recurrent neural networks on sequential data:

- Integrate a pre-trained image classification model to create an automatic doggy door.
- Leverage transfer learning to create a personalized doggy door that only lets in your dog.
- Train a model to autocomplete text based on New York Times headlines.

Final Project: Object Classification

Apply computer vision to create a model that distinguishes between fresh and rotten fruit:

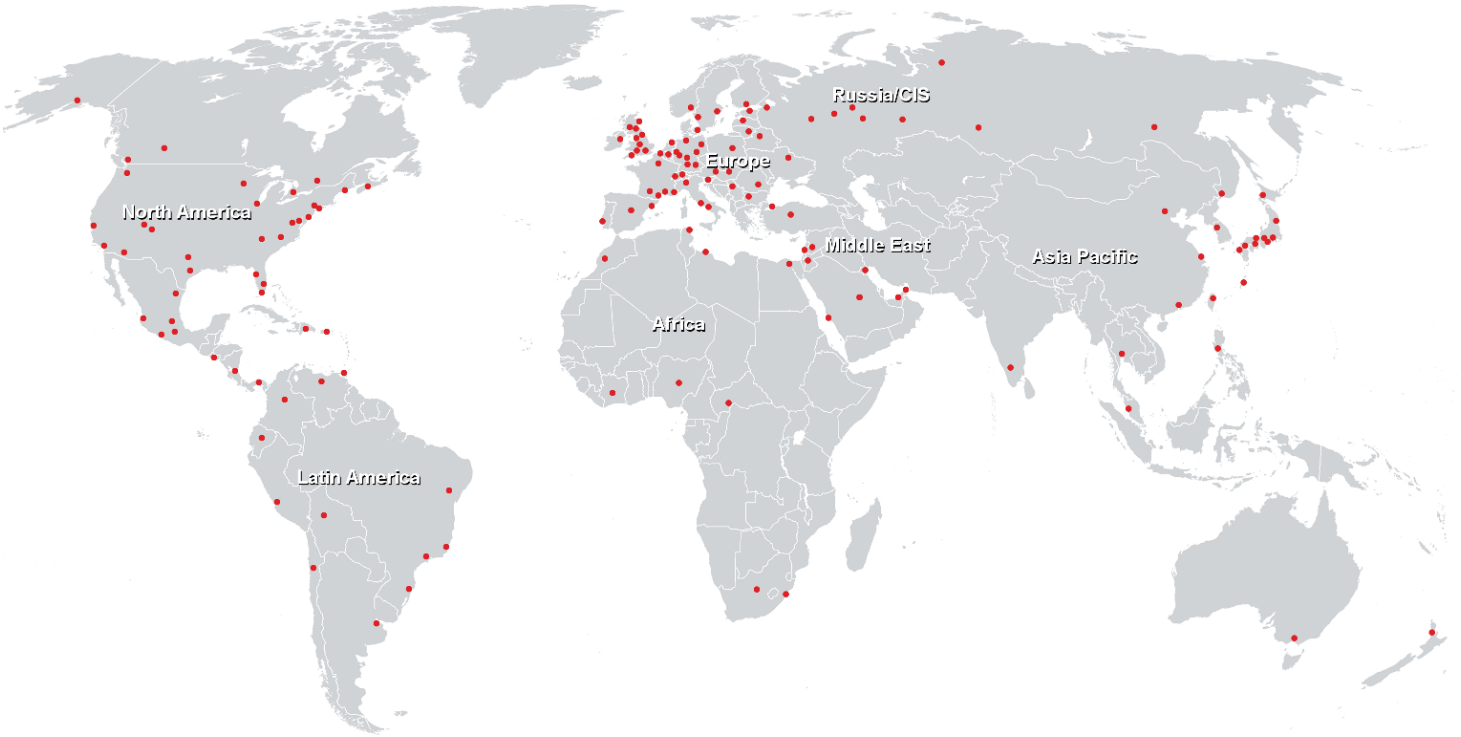
- Create and train a model that interprets color images.
- Build a data generator to make the most out of small datasets.
- Improve training speed by combining transfer learning and feature extraction.
- Discuss advanced neural network architectures and recent areas of research where students can further improve their skills.

Final Review

- Review key learnings and answer questions.
- Complete the assessment and earn a certificate.
- Complete the workshop survey.
- Learn how to set up your own AI application development environment.

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Training Centres worldwide





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