

Fundamentals of Deep Learning for Natural Language Processing 2.0

This workshop teaches you to apply deep learning techniques for understanding textual input using Natural Language Processing (NLP) through a series of hands-on exercises. You will work with widely-used deep learning tools, frameworks, and workflows by performing neural network training on a fully-configured GPU accelerated workstation in the cloud. The course starts with the technique of training a neural network for text classification followed by building a linguistic style model to extract features from a given text documents and concludes with a neural machine translation model for translating one language to another

Duration	8.5 hours
Price	\$10000 for groups of up to 20 people (includes dedicated access during the course to a fully-configured GPU accelerated workstation in the cloud for each student)
Certification	Upon successful completion of this workshop, you will receive NVIDIA DLI Certification to prove subject matter competency and support professional career growth
Prerequisites	Basic experience with Neural Networks and python programming , familiarity with linguistics
Languages	English
Tools, Libraries, and Frameworks	Tensorflow, Keras

Learning Objectives

At the conclusion of the workshop, you will have an understanding of :

- Convert text to machine understandable representation and classical approaches
- Implement distributed representations (embeddings) and understand their properties
- Train Machine Translators from one language to another

Why Deep Learning Institute Hands-on Training?

- Learn how to build deep learning and accelerated computing applications across a wide range of industry segments such as Autonomous Vehicles, Digital Content Creation, Finance, Game Development, and Healthcare
- Obtain guided hands-on experience using the most widely used, industry-standard software, tools, and frameworks
- Attain real world expertise through content designed in collaboration with industry leaders such as the Children’s Hospital of Los Angeles, Mayo Clinic, and PwC
- Earn NVIDIA DLI Certification to prove your subject matter competency and support professional career growth
- Access content anywhere, anytime with a fully configured GPU-accelerated workstation in the cloud

Content Outline

	Components	Description
Overview of Natural Language Processing (45 mins)	<ul style="list-style-type: none"> Importance of data representation for computers to understand language 	Overview of the challenges in NLP and how to tackle them using Deep learning
Break (15 mins)		
Word Embeddings (120 mins)	<ul style="list-style-type: none"> Overview of Word2Vec algorithm for text classification 	We will cover distributed data representations such as word embeddings using the Word2Vec algorithm .The word embeddings once trained can be used for variety of problems including text classification.
Break (60 mins)		
Text Classification (120 mins)	<ul style="list-style-type: none"> Building a linguistic style model to extract features from given set of texts using embeddings 	Text classification will be used to figure out the authors of some unknown set of documents. The text-classification model is then used to identify the right author for a given text document .
Break (15 mins)		
Text Translation (120 mins)	<ul style="list-style-type: none"> Create a neural machine translation model to translate text from one language to another 	Learn the basic technique to translate human readable text to machine readable format.we will teach to use attention mechanism to improve results, especially long strings.
Closing comments and questions (15 mins)	<ul style="list-style-type: none"> Wrap-up with the potential next steps and Q&A 	Quick overview of the next -steps you could leverage to build and deploy your own applications and any Q&A