



4 Courses

**Introduction to TensorFlow  
for Artificial Intelligence,  
Machine Learning, and Deep  
Learning**

**Convolutional Neural  
Networks in TensorFlow**

**Natural Language  
Processing in TensorFlow**

**Sequences, Time Series and  
Prediction**



Sep 25, 2020

**Lu Htoo Kyaw**

has successfully completed the online, non-credit Professional  
Certificate

# DeepLearning.AI TensorFlow Developer

Congratulations! You have completed all 4 courses of the DeepLearning.AI TensorFlow Developer Professional Certificate program. As part of this Professional Certificate program, you have learned: how to build and train neural networks using TensorFlow, how to improve network performance using convolutions as you train it to identify real-world images, how to teach machines to understand, analyze, and respond to human speech with natural language processing systems, and more! These, and other TensorFlow concepts, are going to be at the forefront of the coming transformation to an AI-powered future.

The online specialization named in this certificate may draw on material from courses taught on-campus, but the included courses are not equivalent to on-campus courses. Participation in this online specialization does not constitute enrollment at this university. This certificate does not confer a University grade, course credit or degree, and it does not verify the identity of the learner.

Laurence Moroney  
Lead AI Advocate  
Google

Andrew Ng  
Founder  
DeepLearning.AI

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[coursera.org/verify/professional-  
cert/F5ZGQ824QGUQ](https://coursera.org/verify/professional-cert/F5ZGQ824QGUQ)



5 Courses

Introduction to Data  
Science in Python

Applied Plotting, Charting &  
Data Representation in  
Python

Applied Machine Learning in  
Python

Applied Text Mining in  
Python

Applied Social Network  
Analysis in Python



Jul 2, 2020

**Lu Htoo Kyaw**

has successfully completed the online, non-credit Specialization

# Applied Data Science with Python

The 5 courses in this University of Michigan specialization introduce learners to data science through the python programming language. This skills-based specialization is intended for learners who have a basic python or programming background, and want to apply statistical, machine learning, information visualization, and text analysis techniques to gain new insight into their data. In the final course, students will work on real-world data analysis projects, building a portfolio which showcases their work while at the same time helping real clients gain a better understanding of their data.

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Christopher Brooks  
Research Assistant  
Professor  
School of Information

Daniel Romero, Ph.D.  
Assistant Professor  
School of Information  
University of Michigan

Kevyn Collins-  
Thompson  
Associate Professor  
School of Information

V. G. Vinod Vydiswaran  
Assistant Professor  
School of Information

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[coursera.org/verify/specialization/H8HDL7AMNU](https://coursera.org/verify/specialization/H8HDL7AMNU)



3 Courses

**Build Basic Generative  
Adversarial Networks  
(GANs)**

**Build Better Generative  
Adversarial Networks  
(GANs)**

**Apply Generative  
Adversarial Networks  
(GANs)**



Jan 12, 2021

**Lu Htoo Kyaw**

has successfully completed the online, non-credit Specialization

# Generative Adversarial Networks (GANs)

Congratulations! You have completed all 3 courses of Generative Adversarial Networks - a DeepLearning.AI Specialization. As part of this Specialization, you have learned the classical machine learning skills and the state-of-the-art deep learning techniques needed to build GANs models. You are now equipped to design applications that perform image generation and image-to-image translation using GANs! These, and other generative applications, are going to be at the forefront of the coming transformation to an AI-powered future.

Sharon Zhou  
Course Instructor  
DeepLearning.AI

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5 Courses

Python Basics

Python Functions, Files, and  
Dictionaries

Data Collection and  
Processing with Python

Python Classes and  
Inheritance

Python Project: pillow,  
tesseract, and opencv



Aug 15, 2020

**Lu Htoo Kyaw**

has successfully completed the online, non-credit Specialization

## Python 3 Programming

This specialization teaches the fundamentals of programming in Python 3. We will begin at the beginning, with variables, conditionals, and loops, and get to some intermediate material like keyword parameters, list comprehensions, lambda expressions, and class inheritance. You will have lots of opportunities to practice. You will also learn ways to reason about program execution, so that it is no longer mysterious and you are able to debug programs when they don't work. By the end of the specialization, you'll be writing programs that query Internet APIs for data and extract useful information from them. And you'll be able to learn to use new modules and APIs on your own by reading the documentation. That will give you a great launch toward being an independent Python programmer.

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*Stephen Oney* *Paul Resnick*

Steve Oney  
Assistant Professor  
School of Information

Paul Resnick  
Michael D. Cohen  
Collegiate Professor  
School of Information

*Jaclyn Cohen*

Jaclyn Cohen  
Lecturer  
School of Information

*Christopher Brooks*

Christopher Brooks  
Research Assistant  
Professor  
School of Information

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3 Courses

Understanding and  
Visualizing Data with Python

Inferential Statistical  
Analysis with Python

Fitting Statistical Models to  
Data with Python



Jul 24, 2020

**Lu Htoo Kyaw**

has successfully completed the online, non-credit Specialization

## Statistics with Python

This specialization is designed to teach learners beginning and intermediate concepts of statistical analysis, and use of the Python programming language to conduct data analyses. Learners will learn where data come from, what types of data can be collected, how to effectively summarize and visualize data, how to utilize data for estimation and assessing theories, proper interpretations of inferential results, and how to apply more advanced statistical modeling procedures.

*Brenda Gunderson*  
*Kerby Shedden*  
*Brady West*

Brenda Gunderson,  
Ph.D., Lecturer IV

Kerby Shedden, Ph.D.,  
Professor

Brady T. West, Ph.D.,  
Research Associate  
Professor

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[coursera.org/verify/specialization/RYE6RMXTUGG2](https://coursera.org/verify/specialization/RYE6RMXTUGG2)



5 Courses

**Neural Networks and Deep Learning**

**Improving Deep Neural Networks: Hyperparameter Tuning, Regularization and Optimization**

**Structuring Machine Learning Projects**

**Convolutional Neural Networks**

**Sequence Models**



Sep 14, 2020

**Lu Htoo Kyaw**

has successfully completed the online, non-credit Specialization

## Deep Learning

Congratulations! You have completed all 5 courses of the Deep Learning Specialization. In this Specialization, you built neural network architectures such as Convolutional Neural Networks, Recurrent Neural Networks, LSTMs, Transformers, and learned how to make them better with strategies such as Dropout, BatchNorm, and Xavier/He initialization. You mastered these theoretical concepts, learned their industry applications using Python and TensorFlow, and tackled real-world cases such as speech recognition, music synthesis, chatbots, machine translation, natural language processing, and more. You are now familiar with the capabilities and challenges of deep learning. You are ready to take the definitive step in the world of AI and participate in the development of leading-edge technology.

Andrew Ng,  
Founder,  
DeepLearning.AI

Kian Katanforoosh  
Co-founder, Workera

Younes Bensouda  
Mourri  
Instructor of AI,  
Stanford University

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[coursera.org/verify/specialization/YB5FJEBQPBWC](https://coursera.org/verify/specialization/YB5FJEBQPBWC)