



5 Courses



08/15/2020

Lovepreet Singh

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.

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.

A handwritten signature in black ink.

Christopher Brooks
Research Assistant
Professor
School of Information

A handwritten signature in black ink.

Kevyn Collins-Thompson
Associate Professor
School of Information

A handwritten signature in black ink.

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

A handwritten signature in black ink.

V. G. Vinod Vydiswaran
Assistant Professor
School of Information

Verify this certificate at:
coursera.org/verify/S73DM8VQTVS8



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



08/08/2020

Lovepreet Singh

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.



Laurence Moroney is an
AI Advocate at Google
Research

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.

Verify this certificate at:
coursera.org/verify/professional-cert/4A8X35DNARWD



4 Courses

Natural Language Processing with Classification and Vector Spaces

Natural Language Processing with Probabilistic Models

Natural Language Processing with Sequence Models

Natural Language Processing with Attention Models



Nov 30, 2020

Lovepreet Singh

has successfully completed the online, non-credit Specialization

Natural Language Processing

Congratulations! You have completed all four courses of Natural Language Processing - 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 NLP systems. You are now equipped to design applications that perform question-answering and sentiment analysis, create tools to translate languages and summarize text, and build chatbots! These, and other NLP applications, are going to be at the forefront of the coming transformation to an AI-powered future.

Younes Bensouda Mourri Łukasz Kaiser

Younes Bensouda
Mourri
Instructor of AI at
Stanford University

Łukasz Kaiser
Staff Research Scientist
at Google and Chargé de Recherche at CNRS

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.

Verify this certificate at:
coursera.org/verify/specialization/EQR65PQ5CBY9



3 Courses

AI for Medical Diagnosis
AI for Medical Prognosis
AI For Medical Treatment



21.09.2020

Lovepreet Singh

has successfully completed the online, non-credit Specialization

AI for Medicine

In this Specialization, you gained practical experience applying machine learning to concrete problems in medicine. You learned how to diagnose chest x-rays and brain scans, evaluate your models, handle missing data, and estimate the effect of treatments. Now you can help transform the practice of medicine worldwide. You can go on to pursue a career in the medical industry as a data scientist, machine learning engineer, innovation officer, or business analyst!



Pranav Rajpurkar, PhD
Candidate at Stanford
University

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.

Verify this certificate at:
coursera.org/verify/specialization/5HGAW4HH6V6W



6 Courses

Crash Course on Python

Using Python to Interact with the Operating System

Introduction to Git and GitHub

Troubleshooting and Debugging Techniques

Configuration Management and the Cloud

Automating Real-World Tasks with Python



28.09.2020

Lovepreet Singh

has successfully completed the online, non-credit Professional Certificate

Google IT Automation with Python

This six-course certificate, developed by Google, is designed to provide IT professionals with in-demand skills -- including Python, Git, and IT automation -- that can help them advance their careers. The hands-on curriculum is designed to teach learners how to write code in Python, with a special focus on how this applies to automating tasks in the world of IT support and systems administration. Those who received this certificate passed all graded assessments with a score of 80% or above. They should have a strong foundation in how to use Git and GitHub, troubleshoot and debug complex problems, and apply automation at scale by using configuration management and the Cloud in order to prepare them for more advanced IT Support Specialist or Junior Systems Administrator positions.

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.

Google

Verify this certificate at:
coursera.org/verify/professional-cert/B3VRGWARZHWB



5 Courses

Google Cloud Platform
Fundamentals: Core
Infrastructure

Essential Google Cloud
Infrastructure: Foundation

Essential Google Cloud
Infrastructure: Core Services

Elastic Google Cloud
Infrastructure: Scaling and
Automation

Reliable Google Cloud
Infrastructure: Design and
Process

Google Cloud

08/24/2020

Lovepreet Singh

has successfully completed the online, non-credit Specialization

Architecting with Google Compute Engine

In this five-course accelerated specialization, learners explored and deployed solution elements, including infrastructure components such as networks, systems and applications services using Google Cloud Platform, with a focus on Compute Engine.

Google Cloud Training

Google Cloud Training

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.

Verify this certificate at:
coursera.org/verify/specialization/R995U56LYGR6



4 Courses

Exploring and Preparing
your Data with BigQuery

Creating New BigQuery
Datasets and Visualizing
Insights

Achieving Advanced Insights
with BigQuery

Applying Machine Learning
to your Data with GCP

Google Cloud

Sep 11, 2020

Lovepreet Singh

has successfully completed the online, non-credit Specialization

From Data to Insights with Google Cloud Platform

This four-course accelerated online specialization teaches course participants how to derive insights through data analysis and visualization using the Google Cloud Platform. The courses feature interactive scenarios and hands-on labs where participants explore, mine, load, visualize, and extract insights from diverse Google BigQuery datasets. The courses cover data loading, querying, schema modeling, optimizing performance, query pricing, and data visualization.

Google Cloud Training

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.

Verify this certificate at:
coursera.org/verify/specialization/6ZBMAJFCF4M3



5 Courses

The Data Scientist's Toolbox
R Programming
Getting and Cleaning Data
Exploratory Data Analysis
Reproducible Research



08/16/2020

Lovepreet Singh

has successfully completed the online, non-credit Specialization

Data Science: Foundations using R

The Data Science Specialization covers foundational concepts and tools for the data science pipeline. Successful participants learn how to use the tools of the trade, think analytically about complex problems, manage large data sets, create visualizations, and publish reproducible analyses. This certificate does not confer academic credit toward a degree or official status at the Johns Hopkins University.

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.

Four handwritten signatures in black ink, likely belonging to the faculty members mentioned in the text below.

Jeff Leek, PhD; Roger Peng, PhD; Brian Caffo, PhD
Department of Biostatistics
Johns Hopkins Bloomberg School of Public Health

Verify this certificate at:
coursera.org/verify/specialization/FLDKYV2R4LXE



4 Courses



Sep 12, 2020

Lovepreet Singh

has successfully completed the online, non-credit Specialization

AWS Fundamentals: Going Cloud-Native

AWS Fundamentals: Addressing Security Risk

AWS Fundamentals: Migrating to the Cloud

AWS Fundamentals: Building Serverless Applications

AWS Fundamentals

AWS Fundamentals

In this Specialization, learners gained proficiency in essential concepts, services, and use cases within the Amazon Web Services (AWS) cloud ecosystem, including core AWS services and key AWS security concepts. The Specialization also covered fundamental strategies for planning and migrating existing workloads to AWS and how to build and deploy serverless applications with AWS. Learners are given opportunities to solidify their understanding by engaging in various hands-on labs and exercises throughout the Specialization.

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.

Verify this certificate at:
coursera.org/verify/specialization/9GQ9CN26KSFJ



5 Courses

Google Cloud Platform Big Data and Machine Learning Fundamentals

Modernizing Data Lakes and Data Warehouses with GCP

Building Batch Data Pipelines on GCP

Building Resilient Streaming Analytics Systems on GCP

Smart Analytics, Machine Learning, and AI on GCP

Google Cloud

Nov 7, 2020

Lovepreet Singh

has successfully completed the online, non-credit Specialization

Data Engineering, Big Data, and Machine Learning on GCP

This five-course accelerated specialization is designed for data professionals who are responsible for designing, building, analyzing, and optimizing big data solutions. Through a combination of video lectures, quizzes, and hands-on labs, learners carried out serverless data analysis and productionized machine learning models. This specialization is designed to give learners a robust hands-on experience and is primarily lab-focused.

Google Cloud Training

Google Cloud Training

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.

Verify this certificate at:
coursera.org/verify/specialization/4A3YRYYND388



07/16/2020

Lovepreet Singh

has successfully completed

Convolutional Neural Networks

an online non-credit course authorized by deeplearning.ai and offered through Coursera

A handwritten signature in blue ink that reads "Andrew Ng".

Adjunct Professor Andrew Ng
Computer Science

COURSE CERTIFICATE



Verify at coursera.org/verify/LUT8VJ93P243

Coursera has confirmed the identity of this individual and
their participation in the course.



deeplearning.ai

08/01/2020

Lovepreet Singh

has successfully completed

Sequence Models

an online non-credit course authorized by deeplearning.ai and offered through
Coursera

A handwritten signature in blue ink that reads "Andrew Ng".

Adjunct Professor Andrew Ng
Computer Science

COURSE CERTIFICATE



Verify at coursera.org/verify/5ARMW2DMKMX4

Coursera has confirmed the identity of this individual and
their participation in the course.



Oct 28, 2020

Lovepreet Singh

has successfully completed

How Google does Machine Learning

an online non-credit course authorized by Google Cloud and offered through Coursera

Google Cloud Training

COURSE CERTIFICATE



Verify at coursera.org/verify/MSHKFBUBJWWY

Coursera has confirmed the identity of this individual and their participation in the course.



Nov 7, 2020

Lovepreet Singh

has successfully completed

Launching into Machine Learning

an online non-credit course authorized by Google Cloud and offered through Coursera

Google Cloud Training

COURSE CERTIFICATE



Verify at coursera.org/verify/V39UV9VLL5ZS

Coursera has confirmed the identity of this individual and their participation in the course.



07/23/2020

Lovepreet Singh

has successfully completed

SQL for Data Science

an online non-credit course authorized by University of California, Davis and offered through Coursera

A handwritten signature in black ink that reads "Sadie St. Lawrence".

Sadie St. Lawrence
AI Strategy Consultant for Accenture Applied Intelligence
Founder of Women in Data (WID)
Instructor, University of California, Davis Extension

COURSE CERTIFICATE



Verify at coursera.org/verify/UPFNGYDXNY3Y
Coursera has confirmed the identity of this individual and
their participation in the course.