Machine Learning
& Artificial Intelligence

This Course Collection
features courses from
deeplearning.ai and the
University of Washington.

COURSES INCLUDE:

- Machine Learning: Regression
- Machine Learning: Classification
- Machine Learning Foundations
- Neural Networks and Deep Learning
- Convolutional Neural Networks

This Course Collection focuses
on the cutting-edge field of
machine learning, which
leverages artificial intelligence
to provide computer systems
with the ability to automatically
learn and improve from
experience.

Who this is for
Data Scientists and Software
Engineers with some coding
and linear algebra
experience.

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SKILLS ACQUIRED

- ❏ Regression Analysis
- ❏ Ridge Regression
- ❏ Lasso (Statistics)
- ❏ Linear Regression
- ❏ Python Programming

[Link to course](#)

University of Washington

Machine Learning: Regression

DESCRIPTION

In our first case study, predicting house prices, you will create models that predict a continuous value (price) from input features (square footage, number of bedrooms and bathrooms, etc). This is just one of the many places where regression can be applied. Other applications range from predicting health outcomes in medicine, stock prices in finance, and power usage.

TOPICS

- ★ Welcome
- ★ Simple Linear Regression
- ★ Multiple Regression
- ★ Assessing Performance

PRACTICE

- 📋 15 Quizzes
- 💬 0 Peer-Reviewed Assignments
- 🖥 0 Programming Assignments

SPECIALIZATION Machine Learning

RATING **4.8** out of 5 stars ★★★★⯪

TIME

⏱ ~28.1 hours total   4.7 hours per week

🎞 ~10.3 hours of video

📄 ~17.8 assignment hours

TAUGHT BY

Emily Fox
Amazon Professor of Machine Learning

Carlos Guestrin
Amazon Professor of Machine Learning

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SKILLS ACQUIRED

- ❏ Decision Tree
- ❏ Classification Algorithms
- ❏ Statistical Classification
- ❏ Logistic Regression
- ❏ Stochastic Gradient Descent

Link to course

University of Washington

Machine Learning: Classification

DESCRIPTION

In our case study on analyzing sentiment, you will create models that predict a class (positive/negative sentiment) from input features (text of the reviews, user profile information, etc). In our second case study for this course, loan default prediction, you will tackle financial data, and predict when a loan is likely to be risky or safe for the bank.

TOPICS

- ★ Welcome!
- ★ Linear Classifiers & Logistic Regression
- ★ Learning Linear Classifiers
- ★ Overfitting & Regularization in Logistic Regression

PRACTICE

- 19 Quizzes
- 0 Peer-Reviewed Assignments
- 0 Programming Assignments

SPECIALIZATION   Machine Learning

RATING **4.7** out of 5 stars ★★★★⯪

TIME

~27 hours total   3.9 hours per week

~8.4 hours of video

~18.6 assignment hours

TAUGHT BY

Emily Fox
Amazon Professor of Machine Learning

Carlos Guestrin
Amazon Professor of Machine Learning

SKILLS ACQUIRED

❏ Deep Learning
❏ Artificial Neural Network
❏ Python Programming
❏ Backpropagation
❏ Numpy

Link to course

deeplearning.ai

Neural Networks and Deep Learning

DESCRIPTION

If you want to break into cutting-edge AI, this course will help you do so. Deep learning engineers are highly sought after, and mastering deep learning will give you numerous new career opportunities. Deep learning is also a new "superpower" that will let you build AI systems that just weren't possible a few years ago. In this course, you will learn the foundations of deep learning.

TOPICS

★ Introduction to deep learning
★ Neural Networks Basics
★ Shallow neural networks
★ Deep Neural Networks

PRACTICE

4 Quizzes

0 Peer-Reviewed Assignments

4 Programming Assignments

SPECIALIZATION   Deep Learning

RATING   **4.9** out of 5 stars ★★★★★

TIME

~17.2 hours total   4.3 hours per week

~6.8 hours of video

~10.4 assignment hours

TAUGHT BY

Andrew Ng
Coursera Co-Founder,
Google Deep Brain, Baidu,
Deep Learning AI

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for Business

SKILLS ACQUIRED

❏   Machine Learning
❏   Python Programming
❏   Machine Learning Concepts
❏   Deep Learning
❏   Graphlab

[Link to course](#)

University of Washington

Machine Learning Foundations

DESCRIPTION

Do you need a deeper understanding of the core ways in which machine learning can improve your business? Do you want to be able to converse with specialists about anything from regression and classification to deep learning and recommender systems? In this course, you will get hands-on experience with machine learning from a series of practical case-studies.

TOPICS

★   Welcome
★   Regression: Predicting House Prices
★   Classification: Analyzing Sentiment
★   Clustering and Similarity: Retrieving Documents

PRACTICE

📄 10   Quizzes

💬 0   Peer-Reviewed Assignments

🎞 0   Programming Assignments

SPECIALIZATION   Machine Learning

RATING   **4.6** out of 5 stars ★★★★⯪

TIME

⏱ ~21.4   hours total   3.6   hours per week

🎞 ~8.7   hours of video

📋 ~12.7   assignment hours

TAUGHT BY

Emily Fox
Amazon Professor of Machine Learning

Carlos Guestrin
Amazon Professor of Machine Learning

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SKILLS ACQUIRED

- ❏ Convolutional Neural Network
- ❏ Artificial Neural Network
- ❏ Facial Recognition
- ❏ Tensorflow
- ❏ Face Recognition

Link to course

deeplearning.ai

Convolutional Neural Networks

DESCRIPTION

This course will teach you how to build convolutional neural networks and apply it to image data. Thanks to deep learning, computer vision is working far better than just two years ago, and this is enabling numerous exciting applications ranging from safe autonomous driving, to accurate face recognition, to automatic reading of radiology images.

TOPICS

- ★ Foundations of Convolutional Neural Networks
- ★ Deep convolutional models: case studies
- ★ Object detection
- ★ Special applications: Face recognition & Neural style transfer

PRACTICE

- 4   Quizzes
- 0   Peer-Reviewed Assignments
- 6   Programming Assignments

SPECIALIZATION   Deep Learning

RATING **4.8** out of 5 stars ★ ★ ★ ★ ★

TIME

~19.1 hours total   4.8 hours per week

~6.2   hours of video

~12.9 assignment hours

TAUGHT BY

Andrew Ng
Coursera Co-Founder, Google Deep Brain, Baidu, Deep Learning AI

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