

MIT 6.S191

Introduction to Deep Learning

MIT's official introductory course on deep learning methods with applications in [medicine](#), and more!



Course lectures are now LIVE!

[SCHEDULE](#)[LECTURE PLAYLIST](#)

Course Description

MIT's introductory course on deep learning methods with applications to computer vision, natural language processing, biology, and more! Students will gain foundational knowledge of deep learning algorithms and get practical experience in building neural networks in TensorFlow. Course concludes with a project proposal competition with feedback from staff and panel of industry sponsors. Prerequisites assume calculus (i.e. taking derivatives) and linear algebra (i.e. matrix multiplication), we'll try to explain everything else along the way! Experience in Python is helpful but not necessary. Listeners are welcome!

Time and Location

Mon Jan 27 - Fri Jan 31, 2020

1:00pm-4:00pm, MIT Room [32-123](#)

1:00pm-1:45pm: Lecture Part 1
1:45pm-2:30pm: Lecture Part 2
2:30pm-2:40pm: Snack Break
2:40pm-4:00pm: Software Labs

Course Schedule



Intro to Deep Learning

Lecture 1
[\[Slides\]](#) [\[Video\]](#)



Deep Sequence Modeling

Lecture 2
[\[Slides\]](#) [\[Video\]](#)



Intro to TensorFlow; Music Generation

Lab Session 1
[\[Code\]](#)



Deep Computer Vision

Lecture 3
[\[Slides\]](#) [\[Video\]](#)



Deep Generative Modeling

Lecture 4
[\[Slides\]](#) [\[Video\]](#)



De-biasing Facial Recognition Systems

Lab Session 2
[\[Code\]](#) [\[Paper\]](#)



Deep Reinforcement Learning

Lecture 5
[\[Slides\]](#) [\[Video\]](#)



Limitations and New Frontiers

Lecture 6
[\[Slides\]](#) [\[Video\]](#)



Pixels-to-Control Learning

Lab Session 3
[\[Code\]](#)



Neurosymbolic Hybrid AI

Lecture 7
[\[Info\]](#) [\[Slides\]](#) [\[Video\]](#)



Generalizable Autonomy in Robotics

Lecture 8
[\[Info\]](#) [\[Slides\]](#) [\[Video\]](#)



Final Projects

Lab Session 4



Neural Rendering

Lecture 9
[\[Info\]](#) [\[Slides\]](#) [\[Video\]](#)



ML for Scent

Lecture 10
[\[Info\]](#) [\[Slides\]](#) [\[Video\]](#)



Final Projects and Awards Ceremony

Lab Session 5

About 6.S191

6.S191 is MIT's official introductory course on deep learning!

Lectures and Labs

We open-source all class materials. Checkout the lecture schedule for details!

Social Media

