CS230

Winter 2018
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Teaching Team

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Course details
5 “courses”:

- **C1**: Neural Networks and Deep Learning
- **C2**: Improving Deep Neural Networks
- **C3**: Strategy for Machine Learning Projects
- **C4**: Convolutional Neural Networks
- **C5**: Sequence Models

**Example**: C2M3: Course 2 Module 2

**Schedule is on** cs230.stanford.edu

We are going to use the Coursera Platform: www.coursera.org
One week in the life of a CS230 student

1 module

- Watch videos on Coursera ≈ 1h30
- Solve quiz ≈ 20min
- Complete programming assignments ≈ 1-3h

1 week of class ≈ 2 modules +

- Go to in-class lecture ≈ 1h20

+ Work on final project

Assignments and Quizzes are due every Thursday at 9am
Do not follow the deadlines displayed on Coursera!!!
Grading Formula

Grade = 0.02A + 0.08Q + 0.25Pa + 0.25M + 0.40Pr

A = Attendance
Q = Quizzes
Pa = Programming assignments
M = Midterm
Pr = Final-project
Programming assignments
Projects: SIGN language detection

\[
\begin{align*}
\text{y = 0} & \\
\begin{bmatrix} 1 \\ 0 \\ 0 \\ 0 \\ 0 \end{bmatrix} \\
\text{y = 1} & \\
\begin{bmatrix} 0 \\ 1 \\ 0 \\ 0 \\ 0 \end{bmatrix} \\
\text{y = 2} & \\
\begin{bmatrix} 0 \\ 0 \\ 1 \\ 0 \\ 0 \end{bmatrix} \\
\text{y = 3} & \\
\begin{bmatrix} 0 \\ 0 \\ 0 \\ 1 \\ 0 \end{bmatrix} \\
\text{y = 4} & \\
\begin{bmatrix} 0 \\ 0 \\ 0 \\ 0 \\ 1 \end{bmatrix} \\
\text{y = 5} & \\
\begin{bmatrix} 0 \\ 0 \\ 0 \\ 0 \\ 1 \end{bmatrix}
\end{align*}
\]
Assignment: The Happy House

\[ y = 0 \quad y = 0 \quad \text{can’t enter the Happy House} \]

\[ y = 1 \quad y = 1 \quad \text{can enter the Happy House!} \]
Assignment: Object detection

Projects: others

- Music generation
- Text generation
- Car detection
- Art generation
- Trigger word detection
- Machine translation
- Optimal goalkeeper shoot prediction
- Face recognition
- Emojifier

“I love you”

And many more…
Example of projects
Projects: others

Coloring Black&White pictures with Deep Learning

Predicting price of an object from a picture

Neural Network ➔ 200$
And many more…

Picture to LaTeX

Predicting student drop-out rate in a school system

Visual Question Answering

Healthcare projects

Activity recognition

...
To sum up

1. You will learn about wide range of deep learning topics

2. The course is very applied, you will code these applications

3. You have access to mentorship to build an outstanding project in 10 weeks

For next Thursday (01/18) 9am:

- Create Coursera account and join the private session using the invitation
- Finish C1M1 & C1M2
- 2 Quizzes, 2 programming Assignments
- Start thinking about your project and find teammates

It’s gonna be fun!