

Introduction - Lecture 1

Alexey Sidnev, 2020.09.16

Deep Learning Course (1)

Theory (50%):

- Data-driven approaches;
- Neural networks;
- Backpropagation;
- Activations, loss-functions;
- Convolutional and Recurrent Neural Networks.

Applications (50%):

- Data collection, annotation and management;
- Text-to-Speech;
- Image segmentation, Object detection, Keypoint detection;
- Neural network inference and optimization.

Deep Learning Course (2)

Practice:

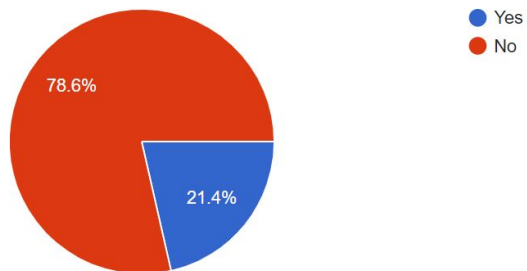
- 2 lab works (Google Colab).
- 1 project for a team (Google Cloud Platform).

Questions

<https://forms.gle/JTjLfDjNHGBY34X57>

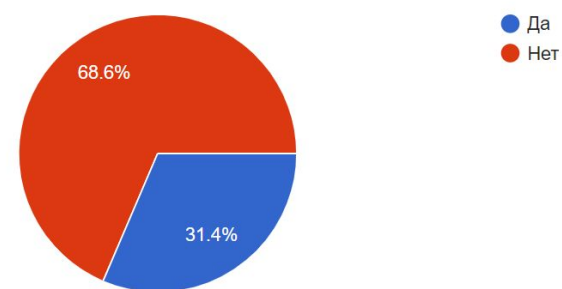
Are you a Deep Learning XXX Engineer?

28 responses



Есть ли у вас современная десктопная видеокарта (GTX 1060+)?

35 responses



Deep Learning Engineer?

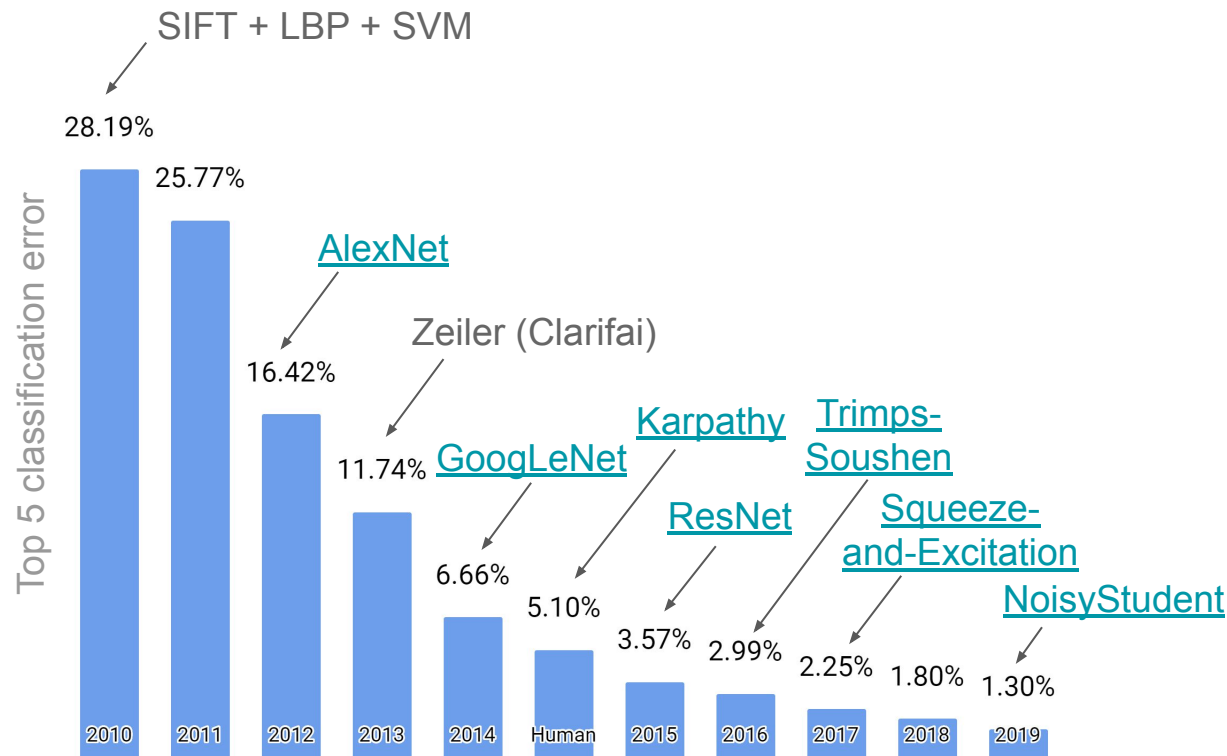
1. Deep Learning Research Engineer (Python) → Papers, Patents.
2. Deep Learning Engineer (Python, C++) → Neural networks for products.
3. Deep Learning Integration/Optimization Engineer (C++) → Products.
4. Data Annotation and Collection.
5. MLOps.

<https://forms.gle/oBLDJgb231VQw5N4A>

Motivation

1. Become a Deep Learning XXX Engineer.
2. Pass the course.
 - a. Finish 2 lab works (fail without it).
 - b. Pass tests.
 - c. Valuable contribution to a project.

Image recognition (ImageNet ILSVRC)



Ladles



1000 categories, 1.2M train images, 100K test images

Image recognition: What do you see?



Image recognition: Annotation



Spatula!



Pajama!!!

Communications

Slack: dl-unn.slack.com

Web-site: <http://dl-unn.github.io/>

E-mail: alexey.sidnev@gmail.com

Materials

1. CS231n (English): <https://cs231n.github.io/>
2. Deep Learning book (English): <https://www.deeplearningbook.org/>
3. Кадурин А. А., Николенко С.И. Глубокое обучение. Погружение в мир нейронных сетей.