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AI

6 주 차

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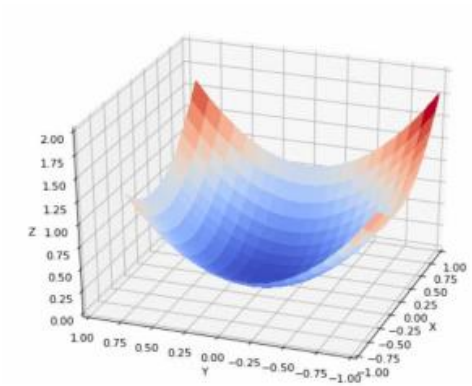
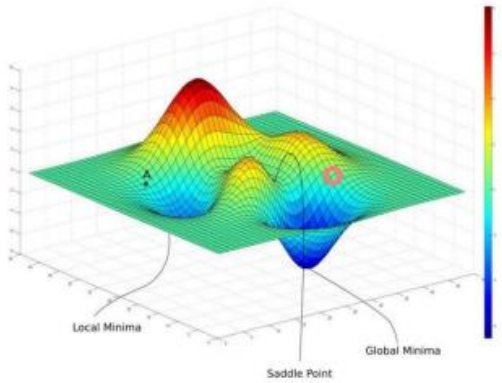
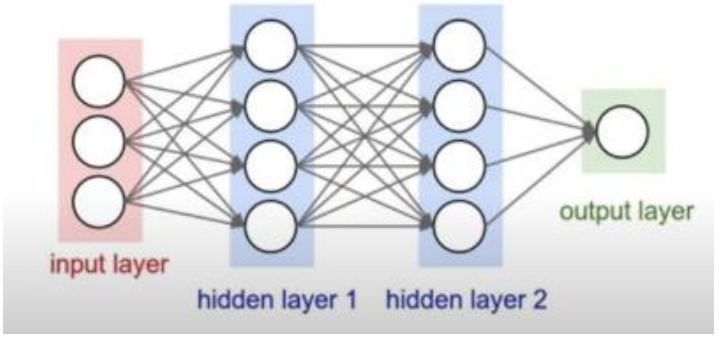
Review

- Linear Regression
  - Cost minimization
- Logistic Regression
  - Softmax, Entropy
- Overfitting
- Deep Learning
  - Neural Net
  - BackProPagation
- Skills
  - Activation func
  - Weight initialization
  - Dropout
  - Batch Normalization



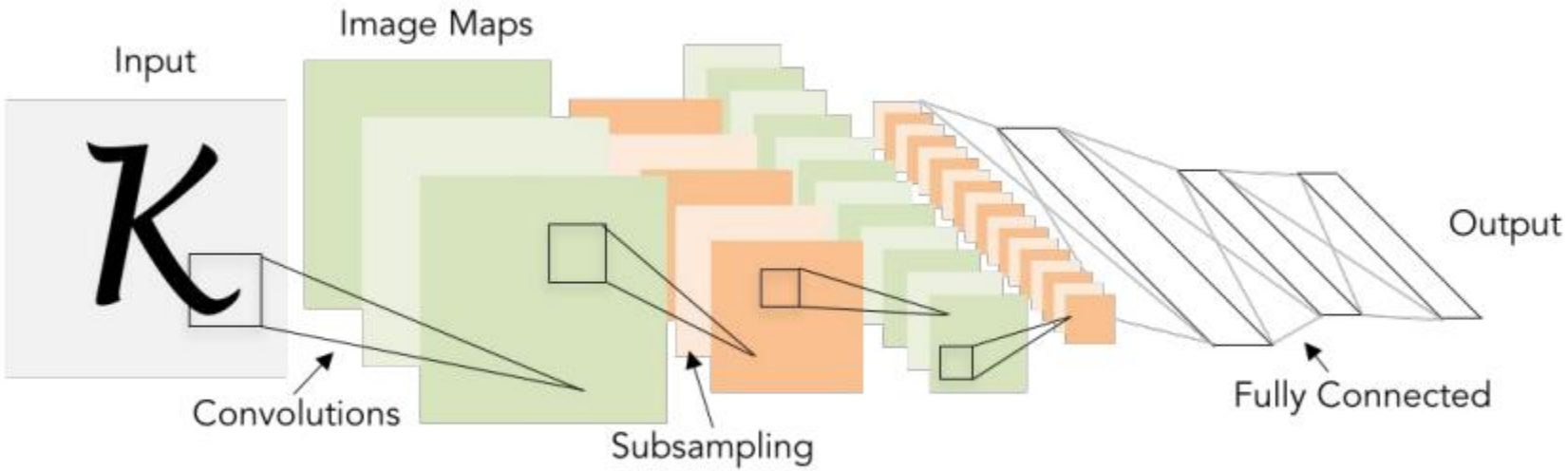




Conv Net - Background

...

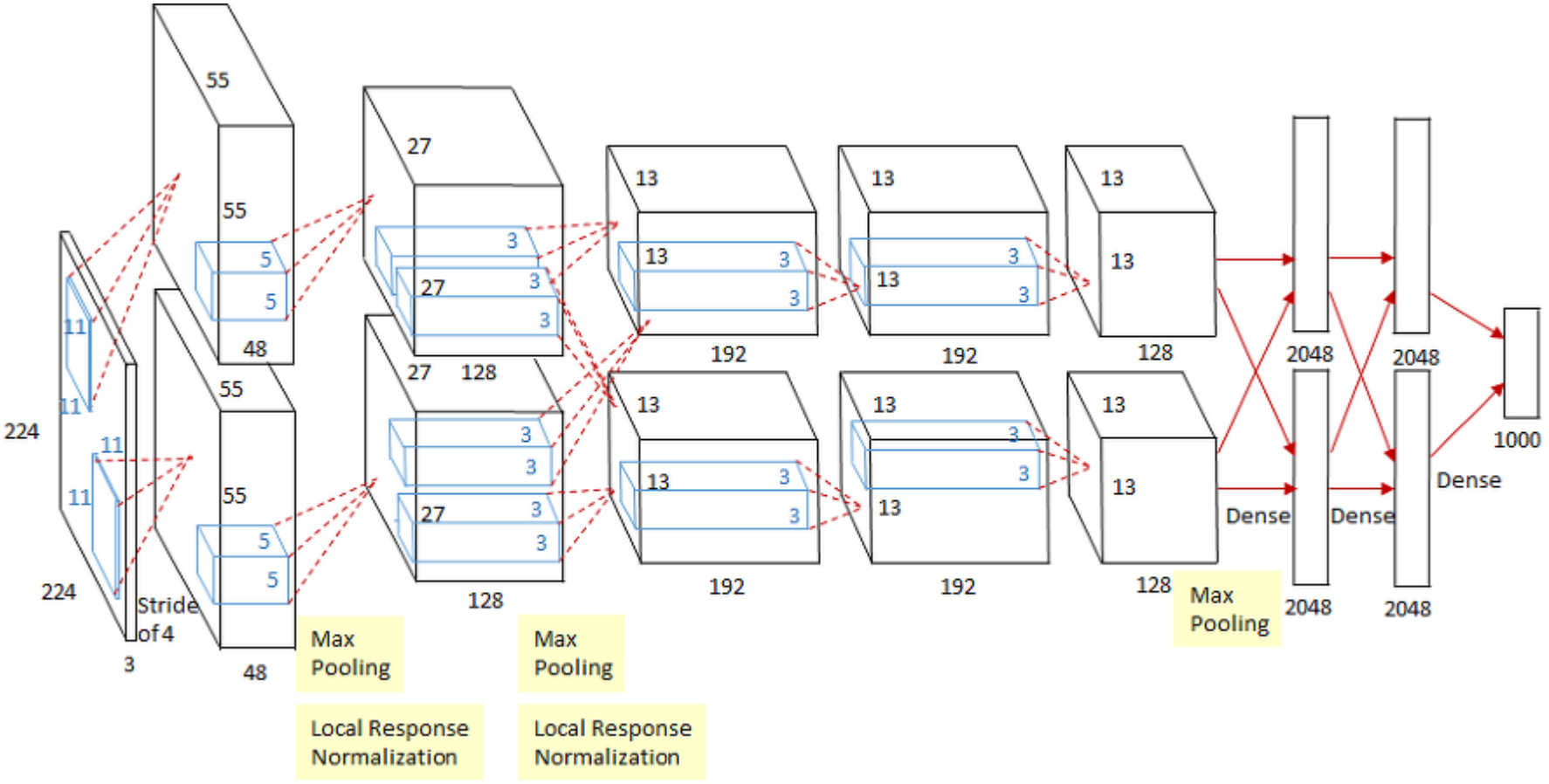
[LeCun et al., 1998]



Conv filters were 5x5, applied at stride 1
Subsampling (Pooling) layers were 2x2 applied at stride 2
i.e. architecture is [CONV-POOL-CONV-POOL-FC-FC]

Conv Net – AlexNet

...



Conv Net - Skills

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1	1	1
0	0	0
-1	-1	-1

Horizontal Line

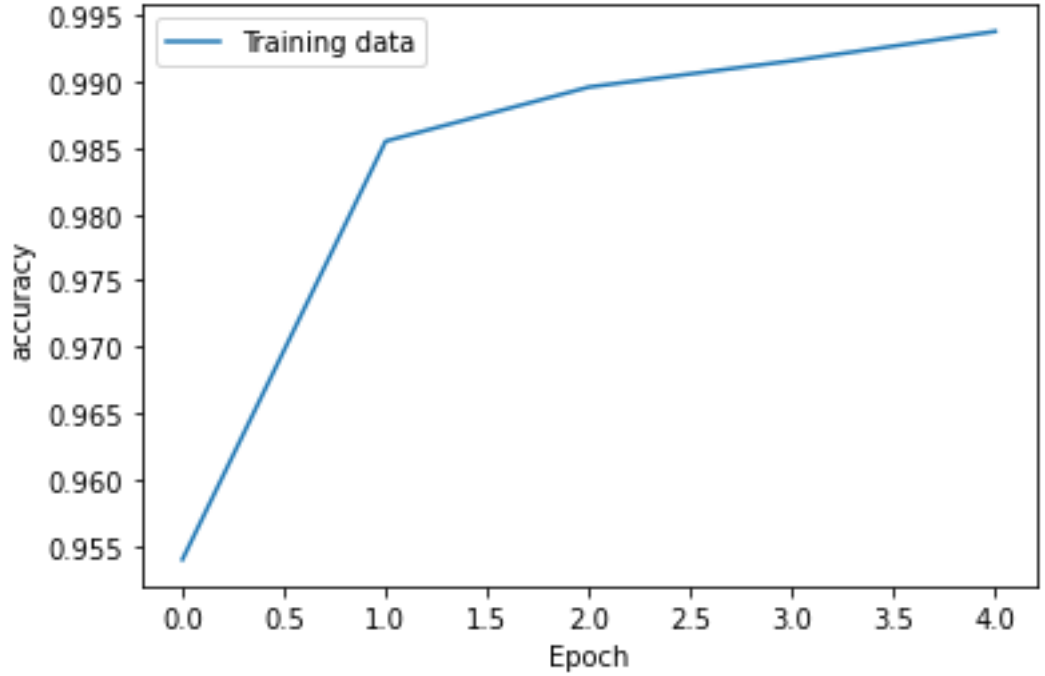
Input

Output

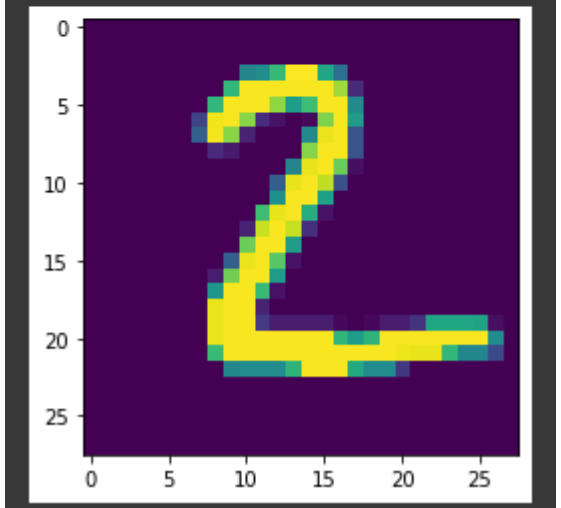
(Feature Map)

Code example (w/MNIST)

...




```
label number: 2
predict number: 2
0: 2.7210622643991655e-09
1: 2.252803369628964e-06
2: 0.999997019767612
3: 2.819887379157393e-10
4: 1.0716649095909858e-10
5: 3.2521438257090756e-15
6: 6.637836804657127e-07
7: 8.927892062790543e-13
8: 2.146360245092182 6e-08
9: 3.235902171216942e-11
```



Reference

- Convolutional Neural Networks (Course 4 of the Deep Learning Specialization), DeepLearningAI, Youtube, 2017.11.08. Accessed: 22.06.24, https://www.youtube.com/watch?v=ArPaAX_PhIs&list=PLkDaE6sCZn6Gl29AoE31iwdVwSG-KnDzF

- Lecture Collection | Convolutional Neural Networks for Visual Recognition (Spring 2017), Stanford University School of Engineering, Youtube, 2017.08.12., Accessed: 22.06.24, https://www.youtube.com/watch?v=vT1JzLTH4G4

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Thank You

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