CS565: Introduction to Neural Networks

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March 9, 2016

1 Overview

This week we will not have any class-room teaching, instead, we will try to optimize resources with the objective of maximizing our productivity. What I meant by that. Hopefully following discussions will clarify.

- **Optimizing resources:** We want to use my and your time more resourcefully by exploiting available free excellent resources on the topics which we want to cover.

- **Maximizing Productivity:** As you know we want this course to be project oriented. In other words, we want you to learn by working on assignments and projects. I think having discussions with you on progress of the project from now onwards on regular basis will be very fruitful. Our first round of discussions will be this week.

Now I guess, we are clear about our intention. Lets discuss what we want you to do this week apart from discussing your projects with me.

2 Topics and Resources

This week I want you to learn about **Neural Networks** by using the following resources.

1. **Video Lectures:** We will follow the lectures by Hugo Larochelle at `http://info.usherbrooke.ca/hlarochelle/neural_networks/content.html`. I want you to follow all the lectures under the sections *Feedforward Neural Network* and *Training Neural Networks*

2. **Optional Video Lectures:** You can follow any other video lectures covering the same material. One of the good alternative resource is Andrew Ng's lectures.

3. **Notes:** First two chapters from `http://neuralnetworksanddeeplearning.com/`

4. **Book reference:** If you want to follow book, then please read sections 6.1, 6.2, 6.3, 6.8 from chapter 6 of *Pattern Classification* by *Duda, Hart and Stork*.

5. **Optional Notes:** Another alternative yet good resource is `http://deeplearning.stanford.edu/wiki/index.php/UFLDL_Tutorial`.

    Remark: Next time, when we will meet in the classroom, I'll assume you have gone through these videos and notes. I'll not repeat these topics but it will be part of course and exam.