Research Plan

NLP

Application

The field I will focus on in master and doctor course is the improvement of some deep learning basic algorithms and do some meaningful research in NLP based on machine learning. I have been learning basic knowledge of statistical machine learning and deep learning after work, but actually I’m still a newbie so I need to take much more time in my study and research.

Basically, machine learning itself often uses four strategies to solve problems above: supervised (e.g.: KNN), unsupervised (e.g.: cluster (e.g: K means), association) and semi-supervised(mixture algorithms) and reinforcement learning.

The first three machine learning strategies above mainly help us solve two main problems: classification and regression

Classification algorithms:

Regression algorithms:

So far, I have learnt some algorithms which are often used in Class

NLP application using algorithms above:

Sentiment analysis-> machine translation-> Q&A

In addition, I think currently the application of NLP technology is very limited. We may develop some more NLP applications in many more fields in the future. (e.g.: How to create a DSL which can recognize a part of natural language)

Reinforce learning: another learning strategy beside supervised learning, unsupervised learning and semi-supervised learning.