Machine Learning,ML

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Lecture 5

Tutorial for week01

This is the last lecture for the first week of the machine learning course. As I hope you have understood the last lecture each week will always be a tutorial an introduction to the assignments of the specific week

Assignments can generally be of two kinds, they can be recall related questions, referring to fact that has been presented on the lectures or it can be having more of a problem solving character. For coming weeks we will see more of our problem solving tasks in assignments but for the first weeks for the first week we are now the assignments will be more of the character of recall. So for the assignments on this course and every week there will be two categories, one category will be questions relating to what has been directly described or shown on lectures the other category relates to extra readings that are proposed for each week. This week because most of the questions are recall and there is no need for further instructions regarding the first category, so please just take a look and do your best.

It is more interesting and important though is to talk little about the readings extra reading required for this week, which are crucial for being able to handle the second group of assignments. So as I've said earlier the ambition on this course to give readings systematically give readings that refer to what I would characterize as original work, not second-order work but rather original and so for this week I have chosen five articles which I hope you without problem can retrieve through the given links. The first article is a seminal publication by Warren McCulloch and Walter Pitt from 1943 when he published the first description of ‘a logical calculus of the ideas immanent in nervous activity’ so this is by most people considered starting point for all work in neural artificial neural system, so that's the first article recommended. The second article which as is as important is the key application by Alan Turing from 1950 named Computing Machinery and intelligence, where Alan Turing explicate his thoughts about computers and their ability for intelligent behavior including learning. The third document is actually John McCartey original proposal for carrying out the Dartmouth summer research project in artificial intelligence as described in a lot in the earlier lecture. The fourth article is one

of the key publications on Arthur Samuel from 1959 where he describes his work with automating the game of checkers but also introducing machine learning as a term referring to the learning mechanism he felt he needed for his game playing program. Finally the last publication is the first publication by Frank Rosenblatt from 1957 about the perceptron which considered today as the first instance of a neural artificial neural network system. So looking at the questions for the second part of the assignment, I guess you could feel that this kind of recall questions are a little silly but you must understand that the questions are there as an important part because I want you I want to push you to read these important original publications crucial for development of this area. So this was the end of week one of the machine learning course. I want to thank you for your attention the topic for the theme for the next week will be ‘characterization of learning problems’