1. Do you think DL is going to replace ML in the near future? Why?

No, I don’t think DL is going to replace ML completely for learning purposes and for outright speed. Take for example our current scenario with corona virus, making a model for all possible cases of infection, as fast as possible with symptoms is preferred. DL can then be used later on for greater accuracies of detection of the diseases from symptoms.

This approach can be likened to a traditional research-scenario, testing on a broad scale initially and then narrowing one’s search parameters.

1. Pros and cons of various types of learning.

**Supervised learning**

Pros

Supervised machine learning is often used in **file analysis**use cases, such as endpoint anti-virus use cases, because there are few changes in the data being analyzed and labeled data is readily available. It has multiple models and evaluation methods which can result in higher accuracy than the other learning methods

Cons

Supervised machine learning requires labelled data, which isn’t generally available in most real-world datasets.

**Unsupervised learning**

Pros

“Unsupervised” machine learning, on the other hand, doesn’t just detect anomalies; it groups together all related evidence and then investigates them to find out whether they are indicative of an attack or not. This process saves the analyst hours of time that would be spent digging through data.

Cons

In comparison to supervised learning, unsupervised learning has fewer models and fewer evaluation methods that can be used to ensure that the outcome of the model is accurate. As such, unsupervised learning creates a less controllable environment as the machine is creating outcomes for us.

**Reinforced learning**

Pros

Reinforcement learning can be used to solve very complex problems that cannot be solved by conventional techniques.

This technique is preferred to achieve long-term results which are very difficult to achieve.

This learning model is very similar to the learning of human beings. Hence, it is close to achieving perfection.

Cons

Reinforcement learning as a framework is wrong in many different ways, but it is precisely this quality that makes it useful.

Too much reinforcement learning can lead to an overload of states which can diminish the results.

Reinforcement learning is not preferable to use for solving simple problems.