IIT ASSIGNMENT 2 SUBMISSION INFORMATION

**ASSESSMENT CRITERIA:**

**TEAM PROFILE 5%**

* personality test results – Ness collating

**TEAM NAME**

* + XVI

**PERSONAL INFORMATION**

* + One paragraph about them personally (must include team name “XVI”) - everyone

**IDEAL JOBS**

* + Comparison of ideal jobs - Nat
    - Are any similar
    - What differentiates each position from the others
    - How similar or different are your career plans across the group?

**TOOLS 5% - Ness**

* Discord
* Google docs
* GitHub
* GitBash
* Microsoft word and excel
* Visual Code Studio
* Website link : DONE
* Individual websites linked (where applicable)
* Photoshop

*“5-4 Marks*

*You have included a link to your group’s website. You have set up your group’s Git repository and included a link to it. You have made clear and appropriate comments about your group’s log of activity. Any other tool, platform, service used is also discussed.”*

**INDUSTRY DATA 15%**

* Ollie

**IT WORK 15%**

* Ness

**IT TECHNOLOGIES x4 20%**

* Raspberry Pi - Nat
* Cloud services and servers – Josh
* Cyber Security - Connor
* Machine Learning – Corbin

**PROJECT IDEAS 10%**

* Connor : Elderly engagement app

*You all have some project ideas that you reported in Assignment 1. You are to come up with a project idea for the group as a whole, which could be an individual’s idea, but is more likely to be a combination of each of the ideas you had individually, together with comments and feedback from your Assignment 1 marker, instructor, and anyone else who you would like to consult.*

*You may also wish to consider what problems need to be solved, for which there are many sources of information, such as the ones below. There are many more websites like these, of course.*

* [*https://www.weforum.org/agenda/2016/01/what-are-the-10-biggest-global-challenges/*](https://www.weforum.org/agenda/2016/01/what-are-the-10-biggest-global-challenges/)
* [*https://www.cheatsheet.com/money-career/want-to-be-a-billionaire-solve-one-of-these-5-problems.html/?a=viewall*](https://www.cheatsheet.com/money-career/want-to-be-a-billionaire-solve-one-of-these-5-problems.html/?a=viewall)
* [*https://www.quora.com/What-are-common-problems-that-need-solving*](https://www.quora.com/What-are-common-problems-that-need-solving)

*There is no set length for this section, but it is difficult to see how a description of less than 500 words would be adequate. Do not limit yourself to this if you have more than this to write, though - but it should be in a well written and concise format. If you are unsure of how much to write, ask your instructor for advice.*

**FEEDBACK 10%**

* your group should login to the SparkPLUS tool
* **Individually** provide feedback on each other as well as themselves

*marks for this section will only be awarded if all group members have contributed in an appropriate manner by the assignment deadline*

**GROUP REFLECTION 10%**

* Reflection as a group on how we went : to be done next week

**PRESENTATION 10%**

* Final report – ness ?

# IIT Assignment 2 Essay – Machine Learning by Corbin Peever

**What does it do? 600**

Machine learning is a sub-concept of artificial intelligence that essentially means that a computer program has in-built functions that allow it to learn through experience rather than input from a human. To put it simply – the computer learns by itself.

“Why do we need the computer to do the learning for us?” – you might ask. Well, traditionally programming takes time and lots of it. Working out what to make, how to make it, writing the code and debugging can take months, even years to do on large projects. This has been the tried and true method since the beginning of computing, but now we have an alternative – machine learning.

Machine learning takes the arduous and time-consuming task of writing large amounts of code and puts it on the computer to work it out itself. This is called “training” and requires the user to input usually massive amounts of “training” data into a human-made program. In more complex machine learning algorithms, the programs can generate their own methods or programs through experience, but that’s starting to move toward more advanced areas of artificial intelligence.

We are only in the budding stages of understanding artificial intelligence and machine learning but the potential for this type of programming is almost limitless. The market leaders

This can decrease production times, increase potential data processed, find trends and similarities that we cannot find and

Cutting edge – Uber, self-driving cars, google, amazon, smaller black box companies (PlantVillage)

“Instead of a programmer spending innumerable hours writing a program, they just have to write a few lines of rules and input a large amount of data to be processed then the ML program will output its own program data.”

How does it work? Input data and results/Output program, supervised/unsupervised, identifying trends in data, collusion filters/file compression, methods and neural networks.

What is the likely impact? 300

Before long, machine learning will affect every faucet of life. The amount of funding and research being thrown at ML indicates that there is a large interest from industry. Uber, PlantVillage, IdeaStream 2020, Coronavirus implications (relevance)

How will this affect you? 300

ML is only going to continue to become more and more prevalent in our every-day lives. All the large app that we use today (Facebook, Instagram, Twitter etc) already have some form of in-built ML function that we interact with constantly. As further development is put into IoT, it will also start to involve ML, meaning every time we use any household technology, even the toaster, we will be giving data to one, if not many, ML programs.

<https://www.forbes.com/sites/cognitiveworld/2019/06/19/7-types-of-artificial-intelligence/#5eeb5486233e>

<https://www.youtube.com/watch?v=ukzFI9rgwfU>

<https://www.youtube.com/watch?v=VwVg9jCtqaU>

<https://en.wikipedia.org/wiki/Machine_learning>

<http://news.mit.edu/2020/what-is-covid-19-data-tsunami-telling-policymakers-0701>

<http://news.mit.edu/2020/mit-toyota-release-visual-open-data-accelerate-autonomous-driving-research-0618>

<https://www.datamation.com/big-data/top-15-machine-learning-companies.html>

<https://www.iita.org/news-item/artificial-intelligence-a-game-changer-for-agriculture-in-africa/>

<http://news.mit.edu/2020/what-can-your-microwave-tell-you-about-your-health-mit-sapple-0518>