# Learning log

The challenge:

Be able to generate movie scripts using new or existing methods of AI text generation.

## Week 1:

This week was our introduction week so I just started researching some key words from the problem brief:

1. GPT-2:
   1. Is a text generation algorithm that was released recently and is at the top of discussion when it comes to text generation.
   2. DONE
2. Machine learning:
   1. Is a way or letting computers work as if they are an independent entity to try and solve problems on their own by showing them similar problems with solutions
   2. DONE
3. Python:
   1. Is a programming language with a unique syntax compared to c based languages which is what I’m familiar with
   2. DONE
4. WordToVec:

## Week 2:

This week I started programming and got a simple neural network up and running to help me understand the theory of neural networks more.

1. Neural networks:
   1. A way to imitate a self-learning algorithm on a computer used a lot in computer learning and research.
   2. DONE
2. Neural network node equations:
   1. The actual math that goes on inside neural networks to give an output
   2. DONE
3. Notepad++:
   1. A better version of the notepad application, used for writing python code.
   2. DONE
4. Visual studio code:
   1. An IDE that I used for python
   2. DONE
5. Kite:
   1. A intelisence plugin for python in visual studio code
   2. DONE
6. Backpropagation:

## Week 3:

This week was the week I started to set up the model of GPT-2 to try and get it to produce samples

1. Virtual environments:
   1. These are essentially small pockets of computers running on your computer so all of its things are self-contained so it’s a safe place to run python code
   2. DONE
2. Setting up Venv in python 3.8:
   1. Learned how to set up a virtual environment in python 3.8 using only command line
   2. DONE
3. Tensorflow:
   1. A module required for neural networks, is a library for neural networking and deep learning.
   2. DONE
4. Anaconda:
   1. A gui based program used to easily create and manage venvs for python 3.7
   2. DONE
5. Getting GIT clones on visual studio code:
   1. How to get a clone of some code that is on github into your IDE
   2. DONE

## Week 4:

This week I got the model up and running and learned to make a simple webpage.

1. Setting up a GPT-2 model:
   1. This required learning a lot of new things about both python and command line programming
   2. DONE
2. HTML:
   1. Used for making the website page
   2. DONE
3. CSS:
   1. Used for a hide/show box on the webpage
   2. DONE
4. Javascript:
   1. Used for a hide/show box on the webpage
   2. DONE

## Week 5:

At this point the project has turned into a research one so I will need to use google scholor to start researching

1. Google scholar:
   1. A search engine used to find academic papers
   2. DONE
2. Uber language model:
   1. John sent me a github repo to check out.

## Week 6:

This week was more of just researching and looking for the next step of my project.

1. GitHub:
   1. Learned how to create a repo and upload files
   2. DONE

## Week 7:

This week I got talking to an academic in the area over email and he has suggested a new library to look into for text generation. John also sent me a reddit link.

1. Texar:
2. A model to help create text
3. Fairseq:
4. A sequence modelling toolkit for text generation

1. <https://www.reddit.com/r/MachineLearning/comments/fay7ol/d_forget_chessthe_real_challenge_is_teaching_ai/>:
2. A reddit post on having a d&d dungeon master as an AI

## Week 8:

This week I was making a blog website for all the research and documentation of this project so far.

1. Mobirise4
2. A easy helper website builder application
3. DONE

## Week 9:

This week was mainly working on texar and trying to fix the bugs that came along with it

1. Build TensorFlow from source
2. Possibly required to get texar running

## Week 10:

This week queens was officially closed due to covid-19 the only work done this week was continuations on previous stated points.

## Week 11:

This week I worked on setting up the BERT model

1. BERT:
2. Googles NLP model

## Week 12

This was the last week of the module so I was setting up a model called textgenrnn and tiding up all of my documentation

1. Textgenrnn
2. A text generation model I found on github