# Planning log

The challenge:

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

## **Week 1:**

This week I just need to focus on learning about the theory of what I am trying to do so I have a good foundation to work on

Learn python(Possible lasting value for programmers) - DONE

I am going to need to learn how to code in python as it seems to be the language of choice for this area of computer science. I will make a quick rundown tutorial in my research document about the basics of python. This could be helpful to someone who is a proficient programmer but doesn’t know any python and could get them a quick start.

## **Week 2:**

This week I want to program a neural network and possibly make a tutorial on it

Understanding neural networks(Lasting value for people who dont understand the theory NN’s) - DONE

This tutorial is intended to take someone from having no knowledge of how a neural network works and get them to the point where they can understand the core fundamentals. This is aimed at people who have an interest in neural networks and computing but don’t really know where to start when learning the theory of them. I hope a tutorial like this could also be useful for people who aren’t specifically interested in this area of computing and could help to show them a new area that they either aren’t familiar with or don’t know about and could possibly motivate them to look fore into the field.

Make a tutorial on making a basic neural network(Lasting value for people who don’t understand how to physically make NN’s) - DONE

This tutorial along with the understanding neural networks tutorial will be very useful tools for people who were in my position of knowledge starting this project. Together these get you to understand how they work and implement one from scratch with python. Getting through these two tutorials could be the thing that it takes to get people into the field that otherwise wouldn’t have tried to due to the difficulty that I faced when starting with nothing.

## **Week 3:**

This week I want to set up the model like in the Gwern blog

Tutorial on how to make a venv in python 3.8(future value for possible new toolkits and models) - DONE

Even though I didn’t end up needing python 3.8 this tutorial will still be useful for people as a future proofing method. When the library’s required for this are updated to be 3.8 compatible this tutorial could replace the 3.7 tutorial that is currently required to set up a venv for training. This could help overcome a challenge that I faced when doing this project of coming up against something similar to what you know but different. This could be a point of confusion or frustration and could lead to people giving up, but there already being a tutorial on it could help to reduce the unknown factor of newer toolkits and models.

Tutorial on how to set up a venv in python 3.7 using anaconda(lasting value for people to learn good programming standards and working with models) - DONE

This tutorial has direct value to someone who would be following the how to set up a training model tutorial as a 3.7 venv is required for setting up all the required library’s and for training. venv’s are used throughout the whole project and learning this basic skill early on will help you greatly as you do more work in this area. It is also good programming practice so this will be useful for people who would possibly want to work in industry as it would get them into the habit of using venvs for the specific situations where it is needed

Tutorial on setting up and training the model(lasting value for people wanting to learn how to work with other people’s code and work with language modelling) - DONE

This tutorial will help teach people the basics of setting up models and getting training data from other people’s code. I believe this tutorial will help people who are like me who getting into an area like this felt overwhelmed about trying to hack another people’s code together. This tutorial shows how easy it can be and could discourage people from just forgetting about the subject thinking it’s too hard. It also fills in some of the gaps left out on other tutorials that I had to figure out.

## **Week 4:**

This week I need to finish setting up the model and make my tutorial website for it

Learn HTML(Possible lasting value for programmers) – PARTIALLY COMPLETE

I will need to learn HTML so I can make a website. I currently don’t have a plan for making a tutorial or walkthrough of HTML but could easily make one similar to the pyhton one. Like the python guide the HTML guide would be aimed to people who already know how to program but have never done HTML and could get them quickly started with the basics which they could further build on

Make a tutorial website for the model(lasting value to likeminded tech-oriented people) - DONE

The tutorial website for setting up the GPT-2 model will be of great value to people like me who are interested in this area of computing but have never actually done any work in the field. When I was originally shown the blog and I tried to follow it I encountered numerous errors that I could not find any mention of in the blog itself so this tutorial takes you through step by step pointing out where possible errors could occur and if they do how to fix them. Following this tutorial will more than likely guarantee a working model. My hope is that a finishing a tutorial like this could give you the confidence to continue and as it is in a website format it can be easily hosted for people to find. I also plan to post links to this website in a social media post to reddit and linkden where likeminded people who are interested in technology can easily see it and find the website

## **Week 5:**

Most of my work is now research so john suggested making a map of how to find papers

Map of how to find academic papers on text generation(Lasting value to researchers and academics) - DONE

Making a map of where I found my academic papers was johns’ idea. I now see the value of it after trying to find papers myself. It can be hard to find exactly what you need so this map will be helpful for people looking for papers in the same area so they will know where to look and where not to look. I could see this being useful for researches working in the field of constrained text generation as it took me a few days to compile a list of related papers. Showing the papers, I found and the ways I used to find them could be helpful for academics who would benefit from seeing these papers and knowing an easy and fast way to find relevant papers

## **Week 6:**

This week I need to setup GitHub

Set up GitHub(Possible lasting value to all previously mentioned people) – ONGOING

A GitHub repo with all my code and documentation would be helpful to anyone wanting to continue the project, people who are just curious about the area or academics who want to see what is currently going on in the field. This repo will contain all of the work I have done since the start of project and could be used to get to the same level of understanding I currently have in a much shorter time as all the information is concentrated into a few files.

## **Week 7:**

This week I need to start producing some code to put in the GitHub

Do work on texar(lasting value for people wanting to learn how to work with other people’s code and work with language modelling) – IN PROGRESS

Another example of setting up and hacking together other people’s code could be useful for people still a bit weary of diving into library’s themselves. As texar is an accumulation of a few language models it will also be useful to show a range of possibilities with language modelling

## **Week 8:**

This week I was gathering all my information up to date and getting it into a Git Repo as well as making a blog website.

Blog Website(lasting value to likeminded tech-oriented people) – ONGOING

This blog website will be one of the most valuable things I have made as it contains independent tutorials on everything I have done and then a full walkthrough from start to finish of where I am at with this project. This will be very useful to people trying to find either those one-off tutorials or to work on the same kind of project. I believe this will also have a rider reach than my github repo as it contains all the same information but in a more user-friendly interface. I also think a blog like website would be easier to follow than a load of files in a reop so this will let the project reach a wider range of people who otherwise wouldn’t have looked at the project.

## **Week 9**

This week I am working on refining the final output of my project so starting to wrap everything I’ve learnt up, so it can be used by other people in the future

Text generation model comparison (Lasting value to researchers and academics) – NOT STARTED

This will be a comparison of the different models available for NLP text generation showing the pros and cons of each. This could help people see which models lack in which areas and which models could help in that area, in the hopes of making a combined model that has the best qualities of all the models. This could be useful for researchers who want to use a model for a specific reason but don’t know which model would be best suited to their task. I could also see this being helpful for people wanting to make better models as they can try and either improve models in sections they lack in or add new functionality to models.

## Week 10

Social media post - DONE

I will make a social media post giving a link to my github repo and any other things I post online so people can see my research. I will aim the post towards people who where like me when I started this project. They don’t know much about AI or neural networks but are interested in them and have a passion for computing. Hopefully this post will be able to introduce people to an easy pathway to follow to get slightly proficient in the field of AI.

## Week 11

Set up BERT model(Lasting value for all previously stated people) – IN PROGRESS

I am going to set up a working model of BERT which is googles NLP model. A similar tutorial will be created for its creation and use like the GPT-2 model. This will be useful for people who are already working through or with the previous tutorials or could also be a starting point to find the other tutorials. It will also be vital in the overall goal of the model comparisons.

## Week 12

Set up a textgennr model(Lasting value for all previously stated people) – DONE

This is a text generation model I found while digging about on google I will get it up and running and will provide a tutorial like I plan to for all the models I get up and running. This model requires an interface so I will also have to program a python interface to use it.

Tidy up and finish my diary’s(Required for module) – DONE

The main thing that I will work on before the hand in of the project will be tiding up all the work I have produced as a result of this module. I need to make sure its in the formats that we have been asked to give it so it can be fairly marked.