**Assignment number 01: Week 1 Tasks**

**1. Introduction to version control with Git and GitHub**

**https://www.w3schools.com/git/default.asp?remote=github**

[**https://freecodecamp.org/news/introduction-to-git-and-github**](https://freecodecamp.org/news/introduction-to-git-and-github)**:**

I've finished this task and gained a solid understanding of Git and GitHub. In essence, Git is a version control system, while GitHub is a platform that facilitates interaction, code writing, and project showcasing. It essentially provides a collaborative workspace for developers to work and share their accomplishments.

**2. Git Branching Hands on Learning**

**Hands-on Learning:** [**https://learngitbranching.js.org/**](https://learngitbranching.js.org/)

I gone through it as well.

**3. Understanding key terminologies and differences between them (AI/ML/DL/Data Science)**

**Video Guide: https://youtu.be/k2P\_pHQDlp0?si=WwP90MxRVEjSPp8U**

[**https://towardsdatascience.com/data-science-vs-artificial-intelligence-vs-machine-learning-vs-deep-learning-9fadd8bda583**](https://towardsdatascience.com/data-science-vs-artificial-intelligence-vs-machine-learning-vs-deep-learning-9fadd8bda583)

Understanding the Differences Between AI, ML, DL, and DL

The above terms are frequently used interchangeably in the ever-changing digital world. All of them are interlinked and very much in action nowadays.

Artificial Intelligence (AI):

Artificial Intelligence (AI) is a broad term, and it refers to an augmented technology that enables experts to scale their capabilities. It is a branch of Computer Science that leads simulation processes like intelligent behaviors. These intelligent behaviors can include recognizing speech, images, nonstructured data, tests, music, and even playing games. Well, AI is taking over very low-grade tasks like cleaning rooms or we can say all the repetitive tasks and that does not require any technical intelligence.

Machine Learning:

It is very important not to confuse machine learning with AI. Both of them are interlinked but in different fields. In simple we can say that machine learning is a small subset of AI and AI is a small subset of CS. Well, the rapidly evolving tasks and applications that are emerging nowadays in the field of AI are due to the subsets of AI that are ML, DL, and many more.

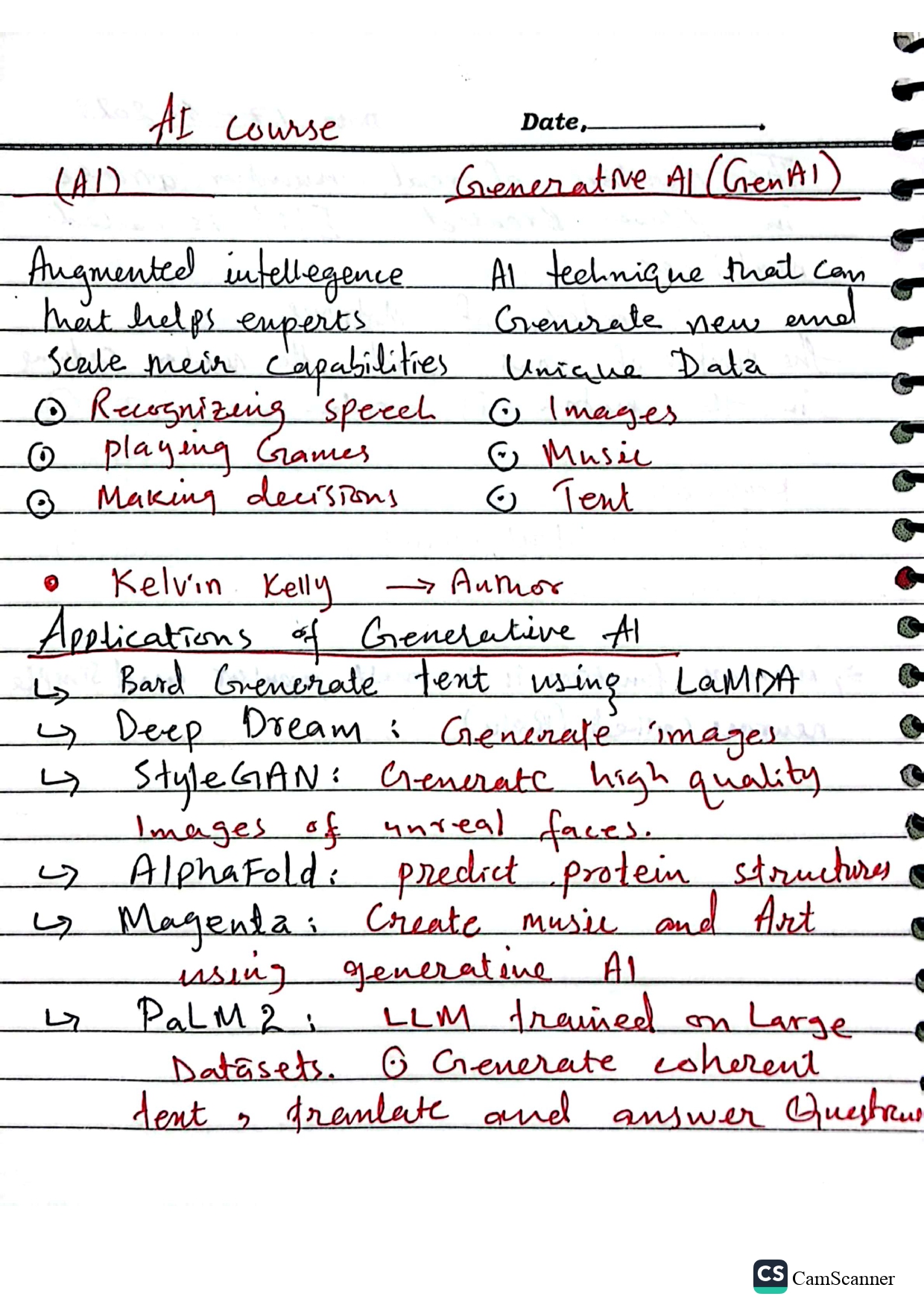
So we need to understand that machine learning is the study of methods that we can apply to build AI applications that can help us automate our tasks. Mostly in Machine learning, we deal with structured data which is simply the tabular form of data that is structured in the form of rows and columns. So by proving the structured data to the ML models we simply train pout models to do predictive tasks for example by using a decision tree algorithm, we can predict the house pricing of a given area or location.

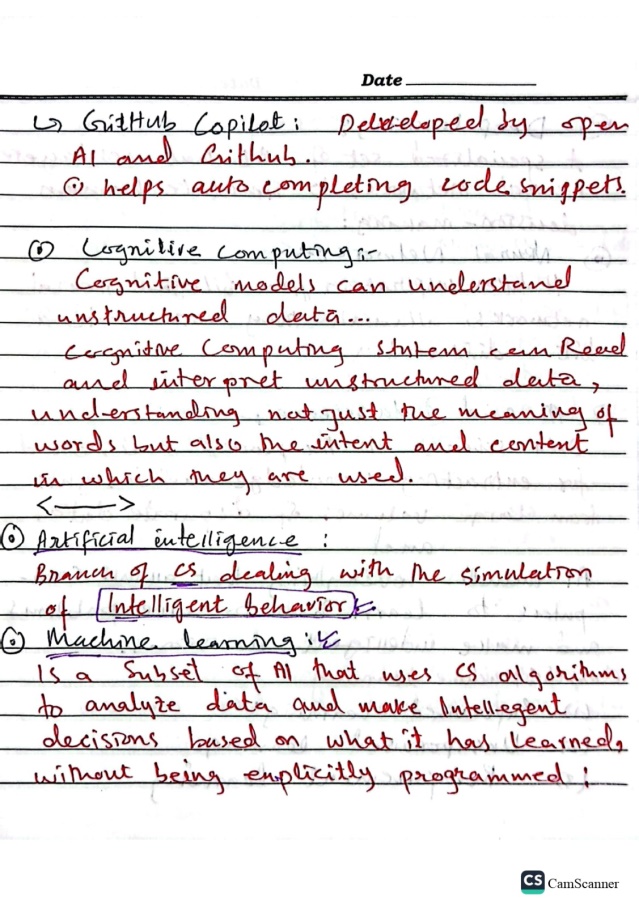
Deep Learning (DL):

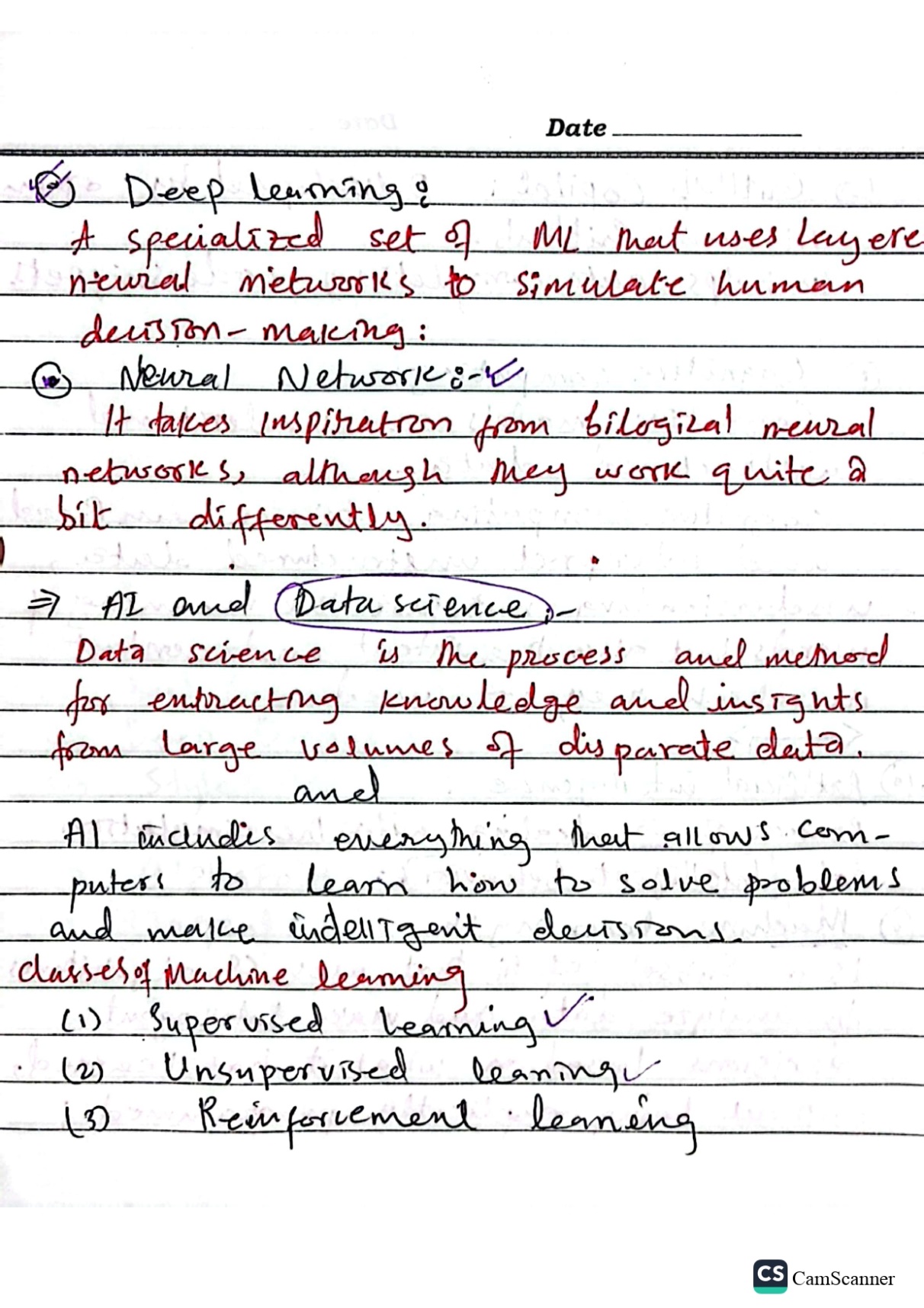
DL(Deep Learning) on the other hand is a more efficient and more broad subset of AI that enables us to even do the tasks that conventional ML models were unable to perform. DL can into being to overcome the limitations of ML. It is just because of the layered network of DL it can also do tasks by taking input in the form of structured as well as unstructured data. This broadens the horizon for all AI developers to produce more amazing AI models, and applications by even utilizing unstructured data in the form of text, images, and music.

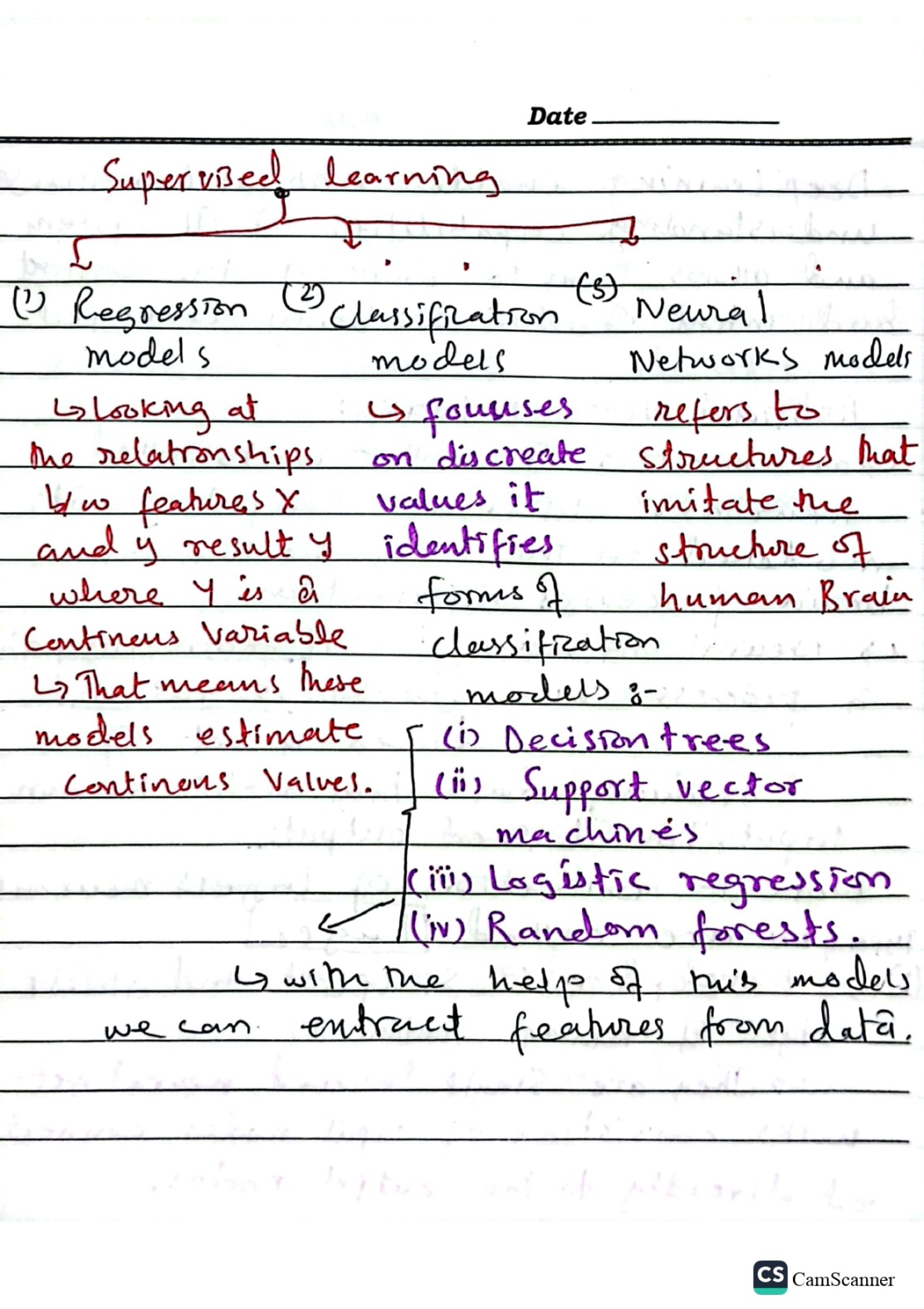
Data Science (DS):

Moving into Data Science (DS) we must understand that it is a different field than that of AI. It is just an interdisciplinary field that is the study of data, Doing EDA, and extracting useful insights from the data. It is being done with the help of statistics, and software like STATA, SDSS, and many more. It involves doing surveys collecting data and then looking at how the data can be made useful and how it can be visualized.

In summary, I would say although all of the above a very broad fields in themselves at the end of the day, all of them interrelate. You can search for any kind of product out there and believe me you will never find a single one of them made up of just one of them instead every product and application is a combination of all of them.****

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