**DS 6500 Module 1 Live Session**

8-28-24

Starting off with introductions

**Deep Learning – Quick Introduction**

* Exactly what we’ve done in linear models – most of the backbone of the class
* With language models the structure is changed a little bit
* Deep learning can take unstructured data and make models out of that – allows for more fields to be turned into actionable data
* Combines with feature engineering to help map out a model

**Syllabus**

* The first book is free and can find online and there is a git repo for the second book that may contain the PDFs
* Will focus most of the effort in the class on TensorFlow
* TensorFlow is very similar to Pytouch – all Python libraries
* Will start off with structured data and mostly optimization problems
* Will quickly transfer into deep learning looking at more unstructured data
* Will learn what is helping create ChatGPT with the large language models

Logistical Information

* Office Hours: **Monday 8:30-9:30**
* Going to set up a teams group chat to help facilitate discussion and solve problems
* Will get points for participation and asking/answering questions
* Don’t share code and solution in teams channel but will be good for techincal help
* Most of the programming will be done in Rivanna
* Rivanna code: **ds6050-soa2wg,** will also post it in the syllabus

Quizzes

* Will have a quiz for every module to assess knowledge and then will have the programming assignments to help reinforce the knowledge
* Quizzes will be after the class, and they will be due a week after
* Quizzes will be due on Tuesday before the next class
* 3 attempts for the quizzes but will be closed notes – can check though between attempts

Programming Assignments

* 5 Programming Assignments
* Programming assignments to help reinforce the knowledge from the quizzes and the modules
* Assignments will be opened up this weekend and we will see when each of them are due – wish it was now but it is what it is
* Assignments will be due about 2 weeks after the classes and will probably have 2 weeks to do them

Codeathons

* 4 Codeathons
* Codeathons will be slightly more challenging than the programming assignments

Group Project

* Group Project will be figuring out a problem and then coming up with a solution
* Will be different check points throughout the project
* Group Project will be in groups of four people
* Presentations will be around the last week of class
* Breakdown of the project in the syllabus under course project
* Second or third week of class will make the groups and can sign up for slots
* Each checkpoint will be graded separately