Course : CS 598 Deep Learning for Healthcare

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**General Questions**

1. **Please give a brief summary of the chapter?**

The chapter and the videos provided a very detailed introduction to Health Data. EHR data serves as a digital version of paper charts, encompassing comprehensive health information about patients, including demographic details, medication history, doctor's notes, continuous monitoring data, medical codes (diagnosis, medication, etc.), and medical images. The chapter provided a summary on the various types of Health Data - Structured Health Data, Unstructured Clinical Notes, Continuous signals, Medical Imaging Data and Biomedical data for silicon drug discovery. It was also very helpful to understand the significance of Electronic Health Record EHR adoption and how it can help to increase the quality of life or the life span of humans. We also learned about the standards used to document the data. For example - Diagnosis details can be represented using ICD codes, Procedures can be represented using CPT codes, Drugs can be represented using NDC codes. Understanding these codes clearly plays an important role in modeling health care data.

1. **What improvements do you want to see in this chapter? Please elaborate on them (50 Points)**

In my humble opinion we could have discussed more about Deep neural networks in the class videos and shorten the in-depth details about the EHR data. I understand that this class is for Healthcare data, but it would make more sense according to me if you learn the root of deep learning first and then learn domain specific data.

1. **What are the typos in this chapter? (20 Points)**

I was not able to find any typo.

1. **Which part of the chapter do you like most? (10 Points)**

It is great to learn about UMLS, maintained by the US National Library of Medicine, integrates various biomedical ontologies and terminologies into one comprehensive system, including the Metathesaurus with over 1 million concepts, semantic network with 135 semantic types, and specialist lexicon with over 300,000 biomedical terms. These components enable consistent characterization and processing of biomedical concepts, facilitating natural language processing applications like MMTX and MetaMaps.

1. **What are the most useful things you learned from this chapter? (10 Points)**

Textbook chapter for Deep Neural Networks is very detailed. Most of the things I am learning for the first time. It would be great to be able to apply these concepts in real life examples.