Resources to Learn Deep Learning (Especially NLP) Before We Start the Project

Since we have been selected to do a company-based project on NLP, it is important for all of us to have the same level of understanding about NLP and deep learning. Therefore, I am sharing some resources that I have used to learn NLP and deep learning. I hope we can learn together and share our knowledge with each other.

1. For Mathy Stuff

If you prefer a more math-oriented approach to deep learning and NLP, I recommend the following resources:

- Deep Learning — Andreas Geiger (YouTube Playlist)
- Deep Learning - Andreas Geiger Lecture Notes

Ideally, it would be best to go through each chapter for a better understanding of the mathematical aspects of deep learning. However, reading/watching Chapter 8 (Sequence Modeling) and Chapter 9 (Natural Language Processing) should be enough for our project.

(Optional) Additionally, for pure NLP concepts (pre-Transformer and post-Transformer models), I recommend the book Speech and Language Processing.

2. For Practical Stuff

To learn more about TensorFlow or Keras, which are important tools for our project, I recommend the following books:

- Deep Learning with Python

Building practical projects with NLP using the Hugging Face ecosystem is also important for our project. You can use the following resources for a basic understanding of the Hugging Face ecosystem:

- Natural Language Processing with Hugging Face
- Hugging Face NLP Course

3. Engineering/Production Level of ML-Powered Products

If you want to learn about designing ML-powered products better from an engineering/production perspective, I recommend the following course. You do not need to complete all of it, just skim through it to get an idea of the tools widely used in the industry:

- Full Stack Deep Learning

4. How to Properly Do Experiment Tracking with W&B

Again, while the deep learning tools may be different from what we are using, it is important to have a general idea of how to do experiment tracking with W&B. You can refer to the following tutorials:

- W&B Keras Tutorial
- W&B MLOps:Dev Keras