Fisayo Jassey- Jabarr

Professor Patricia McManus

ITAI 2376: Deep Learning in Artificial Intelligence

February 09, 2024

**Lab 01 Conclusion**

Overall, I found this code helpful in understanding the basics of tensors in PyTorch. It covered concepts like tensor creation, manipulation, indexing, slicing, element-wise operations, and linear algebra operations. By experimenting with the provided code and answering the quiz questions, I felt a bit more familiar working with tensors for simple calculations and manipulations.

**Challenges**

Some challenging aspects of the code were:

* Remembering different functions for various operations: While the code demonstrated several functions like reshape(), torch.exp(), and torch.matmul(), remembering their exact usages and nuances required repeated practice and referring back to the explanations.
* Understanding nuances of indexing and slicing: Indexing individual elements based on their position might seem easy, but understanding how slicing works across multiple dimensions required careful attention and practice.
* Visualizing tensor operations: Although the code provided numerical outputs, it would be helpful to have visualizations or real-world examples to solidify the conceptual understanding of the operations.

Takeaways

To address these challenges, I found the following approaches helpful:

* Creating cheat sheets: I summarized key function names, their purposes, and syntax in a cheat sheet for quick reference during practice.
* Practicing with different data types and shapes: Experimenting with tensors of different shapes, data types (e.g., integers, floats), and applying various operations helped solidify my understanding.
* Visualizing operations: Whenever possible, I tried to plot or imagine the tensors visually to grasp how operations like reshaping and slicing were affecting the data.
* Seeking additional resources: Consulting online tutorials, articles, and interactive visualizations provided alternative explanations and deeper insights into tensor concepts.