Journal

Vinay and Shreeansh Hota

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§1 Day 1: Meeting and Project Discussion

On day 1, the members of the project group had a meeting to discuss how to proceed for the project, and discussed a timeline for the project. The members also discussed the project outline and the tasks that need to be completed. We also discussed the general order of reading the research papers which were assigned to us. The proposed order was as follows,

1. LSSL

2. HiPPO: Recurrent Memory with Optimal Polynomial Projections

3. S4: Efficiently Modeling Long Sequences with Structured State Spaces

4. S5: Simplified State Space Layers for Sequence Modeling

5. S6/MAMBA: Linear-Time Sequence Modeling with Selective State Spaces

But, even before we start reading the research papers, we decided to do some review of RNN and LSTM networks. We decided to watch some youtube videos on the same.

§2 Day 2: Literature Review

We did a online Teams meeting. A decision was made regarding the work to be done by all the members.

Shubh, Snehal and Vaibhav will be doing the review of RNN and LSTM networks, and make the corresponding presentation slides. Vinay was alloted to start reading the LSSL paper.

Snehal and Subhadeep did not know how to use Git, so work was not started on this day.

§3 Day 3: Slides for RNN and LSTM

A meeting was conducted after the real analysis class, but it was not productive.

After facing frustration from the meeting, Vinay decided to hold a teams meeting and made Subh and Vaibhav work in front of him. A **shocking** fact discovered was that vaibhav did not have latex installed on his system.

The slides on RNN and LSTM were done by Subh and Vaibhav on the teams meetings. The meeting was quite productive. Subh completed his work early, and left. But vaibhav did not complete his work, so he continued working after the meeting but what he did was absolute trash and thus Vinay had to redo the work himself.

Snehal was not available for the day (he said he was ill, which was a bit suspicious). He said he will contact Vinay in the afternoon, but he did not respond at that time.

§4 Day 4: Started reading LSSL paper

We did a online Teams meeting, where Vinay gave a introduction of the LSSL paper to other members. Everyone has now started thereading the paper by themselves. We have also started our work on Project paper. We are done writing about RNN and LSTM. We expect furthur improvements in the literature we have written, over time.