

Week 10 - Check-in

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November 25, 2024

1 Questions

1. How was the mentor meeting? Was there a good discussion/Did you get your questions answered/requests responded to?

Answer: The mentor meeting was great! This week's meeting was joined by Dr. Kessler and Mr. Ritvik Khandelwal, and we discussed the developments that we made on the cropping front, as well as some first steps towards the development of a temporal model, that accepts not just one frame, but a series of k frames to predict the target of the $(k+1)^{th}$ frame.

2. What has been the group's overall status and contributions this week?

Answer: We received instructions on what to work on next - we are now exploring the development of a temporal model that would consider multiple preceeding frames in a video to predict the labels of a frame. We are exploring LSTM based CNNs and Time-Distributed networks to achieve our goals.

3. What has been your individual contributions to the project this week?

Answer:

- Abhik Biswas: Developed the initial code for an LSTM based framework using Tensorflow, achieving an accuracy around 70%. Also found a model pre-trained on ultrasound thyroid scans, which was fine-tuned for our specific lumbar puncture case.
- Isaac Tucker Peabody: Continued exploration of multiple cropping methodologies, on the ResNet-18 pipeline
- Harinder Mashiana, Mohini Bhav, Shrinjay Kaushik: Explored explainability techniques - Grad-CAMs and Saliency diagrams to explain the outputs. Along with this, Harinder focussed on creating a more-robust pipeline for the two-model approach.

4. Any challenges or roadblocks?

Answer: No blockers for this week.

5. Any questions or feedback?

Answer: No questions. A productive concise discussion took place.