* Needs a narrative for the project with well backed-up points for final paper/ presentation/. Proposed outline as followed:
* Our team is trying different deep learning applications for a recommendation system using the movielens dataset
  + Start with a baseline vanilla embedding model that uses matrix factorization to do collaborative filtering
  + Try 3 additional approaches: transformer, autoencoders, word2vec
  + Transformer: Drew
    - Transformer type is behavior sequence transformer
    - Change from 1M movielens dataset to a larger dataset because hypothesis is transformer’s performance scales with number of data points → performance increases exponentially as there are more data (just a hypothesis, could be wrong, but need to try and document anyway)
      * Ex: change to 10M or 20M dataset, look here: <https://grouplens.org/datasets/movielens/> (perhaps choose sth that
      * Try training for a few epochs (i.e: 10-20 epochs) then re-compile the model (do model.compile again) and train for more epochs
    - Gets recommendation pipeline to work: important because we are doing a recommendation task
    - Understand transformers, the different models, the mechanisms, etc → need to be able to talk in the blog post/ screencast/ research paper how the model is doing the recommendation task and explain key choices of parameters
  + Autoencoder: Annie & Roma
    - Check some model where validation loss is constant → fix
    - Gets recommendation pipeline to work: important because we are doing a recommendation task
    - Tune the models or try with larger version of the movielens dataset to get as good performance as possible
    - Understand autoencoders, the different models, the mechanisms, etc → need to be able to talk in the blog post/ screencast/ research paper how the model is doing the recommendation task and explain key choices of parameters
  + Word2Vec: Mike
    - Fix the bug in the recommendation part of the word2vec collaborative filtering notebook
    - Gets recommendation pipeline to work: important because we are doing a recommendation task
    - Tune the models or try with larger version of the movielens dataset to get as good performance as possible
    - Understand word2vec, the different models, the mechanisms, etc → need to be able to talk in the blog post/ screencast/ research paper how the model is doing the recommendation task and explain key choices of parameters
  + For final blog post/ presentation/ screencast:
    - Needs to get recommendation pipeline to work after completing the training for all models, and all models need to recommend for the same user (or movie) to make results comparable, we will discuss this in the presentation/ paper/ blog to shows the difference between how the different models do the recommendation task
    - Needs to be able to explain the pros and cons of each model, the mechanism of how it works for the recommendation tasks, the hypotheses we came up with and how we tested them, why they failed or succeeded
    - Wraps up with real life application of the different models, for instance, in which case/ for what kind of company would each model be a fit for → needs to do research
    - Other fixes needed:
      * improve the tuned embedding models better
      * Accuracy improvement is only count if improvement is >= 1%
  + Proposed working timeline:
    - Friday
      * Getting started on debugging, trying new approaches
      * Get started on writing recommendation pipeline
      * Identify and understand key issues/ points of the model
    - Saturday
      * Test different fine-tuning approaches
      * Keep working on recommendation pipeline
    - Sunday
      * Make progress as needed
      * Ideally want to wrap up with models by EOD
      * Start presentation/ blog post/ research paper
    - Monday
      * Make any changes and progress as needed
      * Make additional progress as needed
      * Complete presentation/ blog post/ research paper
      * Record screencast, upload
      * Submit, push to github, make sure everything visible in dan’s drive