**Overview: Final Submission**

**Criteria** (based on guidelines.pdf)

* **Formal problem setting** – our proposal. Our grade will be based on how well we did what we said we would do in the proposal, so it’s important that we adhere to it quite closely.
* **Include a well-defined evaluation protocol** – In our case simply the accuracy of the classification on the test set.
* **Tune the hyperparameters of the model** – Something we haven’t really done so far (which we should include for all the models ideally – can be very simple).
* **Comparison of the results against a baseline** – Two baselines: GPT2-model with regular attention and the results from the paper. The latter are less relevant for us, because it is based on Llama 2 rather than GPT2 (but probably still good to mention it in the presentation.
* **Statistical Baseline** – Our random forest classifier.

**Models to be included in the Repo**

1. **Baselines: GPT2-Model with regular attention & RFC**.

* ’01-random-forest-classifier’: Includes a part on data exploration? Make sure that it is well documented, apart from that we can leave it as it is.
* ’02-baseline-gpt2-model’: Use the model that has all the layers unfrozen (yielded a better performance, what is typically done when fine-tuning a LLM).

1. **Different approaches for integrating GAAM/LAAM into the GPT2-Model**.

* ’03-gpt2-with-GAAM-hyp-tuning’
* ’04-gpt2-with-GAAM’: Add: Do hyperparameter tuning (to show that the bad performance is not caused by the choice of hyperparameters).
* ’05-gpt2-with-LAAM’: Add: Do hyperparameter tuning (to show that the bad performance is not caused by the choice of hyperparameters).
* ’06-gpt2-with-normal-attention-and-GAAM’: Add hyperparameter tuning as well.
* ’07-two-model-architecture’: Remove the other models from ‘Method 1.ipnyb’ and add text boxes explaining what is done exactly.

1. **Devising our own proprietary Gaussian/Laplacian attention mechanism**.

* ’08-two-model-architecture-with-proprietary-gaussian-att-mechanism’:
* ’09-two-model-architecture-with-proprietary-laplacian-att-mechanism’:

**Questions / Comments**

* In most notebooks, we use the same types of functions (e.g. the function for taking 1% of the dataset). Can we group these helper functions into a ‘utils.ipynb’ or something similar such that we don’t have to use copied code all the time?
* We have to clean up the repo before submission (remove old files, back to main branch).
* Overall: Add a (short) textbox before each code box + use descriptive variable names (if possible) => such that is easily understandable and looks “clean” and well thought-through.
  + Ensure that the document / presentation covers everything we said we would do in the proposal.
* Who does what?
* ’01-random-forest-classifier’: Sam
* ’02-baseline-gpt2-model’: Dario
* ’03-gpt2-with-GAAM-hyp-tuning’: Simon
* ’04-gpt2-with-GAAM’: Simon
* ’05-gpt2-with-LAAM’:Simon
* ’06-gpt2-with-normal-attention-and-GAAM’: Simon
* ’07-two-model-architecture’: Dario
* ’08-two-model-architecture-with-proprietary-gaussian-att-mechanism’: Dario
* ’09-two-model-architecture-with-proprietary-laplacian-att-mechanism’: Sam

*Presentation*

* Outline of our research (proposal – might not be familiar with it anymore) + Baselines: Sam
* Using GAAM and LAAM (probably the longest part): Simon
* Proprietary Gaussian and Laplacian attention mechanisms: Dario
* How do we create the presentation? PowerPoint?
* What do we show in the presentation? Ask this in the tutorial session.
  + Important to note: In the proposal we said that we would use Llama 2 – in the presentation we must explain why we did not do that (computational resources) (probably in the first part of the presentation directly).
* Also: Everyone has to submit a short description of their contribution to the project (on OLAT).