**DATASET:**

**train\_qdiff\_dataset\_2.csv -**  Qa-data training set.

**val\_qdiff\_dataset\_2.csv** - Qa-data validation set.

**test\_qdiff\_dataset\_2.csv -** Qa-data testing set

**CODE:**

* **bloom\_predicted\_qdiff\_interactive\_\_attention\_difficulty\_ensemble\_with\_statistical\_significance.ipynb**  - Constructs an ensemble of models trained on QC-Science and performs statistical significance tests.
* **difficulty\_ensemble\_statistical\_significance\_data\_2.ipynb** - Ensemble construction of models trained on QA-data dataset and performs statistical significance tests.
* **multi\_task\_qdiff\_interactive\_attention\_BERT\_data\_2\_final.ipynb** - notebook implementing IA\_BERT, the core method discussed in the paper. In this notebook it is trained on QA-data. This notebook contains both training and inference scripts for QA-data.
* **multi\_task\_qdiff\_interactive\_attention\_BERT\_final.ipynb** - notebook implementing IA\_BERT, the core method discussed in the paper. In this notebook it is trained on QC-Science. This notebook contains both training and inference scripts for QC-Science.
* **multi\_task\_qdiff\_interactive\_attention\_bloom\_label\_given\_data\_2.ipynb** - notebook implementing a variation of IA\_BERT where the bloom level instead of being jointly predicted with difficulty label is actually considered as given ground truth. Notebook performs training and inference on QA-data.
* **multi\_task\_qdiff\_interactive\_attention\_bloom\_label\_given\_final.ipynb** - notebook implementing a variation of IA\_BERT where the bloom level instead of being jointly predicted with difficulty label is actually considered as given ground truth. Notebook performs training and inference on QC-Science.
* **BERT\_difficult\_name\_cascade\_data\_2**.**ipynb -** notebook to implement difficulty prediction in a cascade setting where a model is first trained to predict the bloom’s taxonomy level. Then the model is fine-tuned to predict the difficulty level.
* **multi\_task\_qdiff\_interactive\_attention\_pre\_trained\_skill\_bert.ipynb** - notebook where bloom level is not jointly predicted but rather a pre-trained skill prediction BERT model is used. Contains training and inference scripts for QC-Science data.
* **skill\_prediction\_multi\_task\_qdiff\_interactive\_attention\_difficulty\_label\_given.ipynb** - notebook where bloom level is predicted using a variant of IA\_BERT with the difficulty label considered as an input instead of being jointly predicted.
* **multi\_task\_qdiff\_interactive\_attention\_pre\_trained\_skill\_bert\_data\_2.ipynb** - notebook where bloom level is not jointly predicted but rather a pre-trained skill prediction BERT model is used. Contains training and inference scripts for QA-data dataset.