

## measurable.energy Technical Challenge (Machine Learning Engineer)

We prefer the use of python3 + torch/ tensorflow to complete this programming challenge. However, feel free to use any other ML frameworks if you are more comfortable with them. Please do not spend more than 8 hours on this problem.

### Problem

In this exercise, you will create an ML project which allows training of a deep learning model on the fashion MNIST dataset. Fashion MNIST dataset can be obtained from its [github repository](#).

Things that are required in the training project:

- **README** (a brief readme that describes how to run your work and reproduce your results)
- **Data Loader** (custom class to load and transform data, e.g. torch.Dataloader or tf.data.Dataset)
- **Training Script** (a script which is used to train, validate and test the dataset, please seed so your results are reproducible)
- **Model** (implementation of an ML model which can be parametrized via command line or a config file)
- **Config File** (config file which provides configurations for file paths, model training, validation and testing, etc.)

Additionally, we'd be impressed if you add the following:

- Monitoring of the training process and logging of key metrics (this can be as simple as a Tensorboard, or Kubeflow/ MLflow)
- Plots of misclassified instances and confusion matrices
- Unit tests (such as torch.testing)

Please do not add any data files to the repository. Impress us with clean, modular code with clear instructions and reproducible results.

### Output

Please create a private repo on github and add [enoch@measurable.energy](mailto:enoch@measurable.energy) as a collaborator.

### Tips

Quality of your code and how you structure your package are much more important than producing a performant, accurate model. Please let us know if you have any questions regarding this exercise.