

# Mid submission progress:

## Text detection:

### Tech Stack used:

- Python - the main programming language
- PyTorch - used as the backend for hugging face models
- Transformers library - provides pre trained models for GPT-2 and RoBERTa-based AI text detection

This code analyzes whether a given piece of text is likely written by AI or human, it works in three main steps

We use pretrained RoBERTa model to assign probabilities that the text is AI generated or human written

Computes perplexity (statistical measure) to see how predictable or surprising the text is, AI generated text has lower perplexity

Sends the text and scores to a large language model to generate a human-readable explanation of why the text might be AI-generated or human-written.

After these steps we combine all these into one result giving both numerical scores and explanation.

## Image detection:

### Tech Stack used:

- Python - the main programming language
- PyTorch - used as the backend for hugging face models
- Transformers library - provides pre trained models for GPT-2 and RoBERTa-based AI text detection
- Pillow (PIL) - image loading and manipulation

- Softmax/Temperature scaling

This part is an AI image detection pipeline.

We load a pre trained image classification model, it loads associated image processor for preprocessing.

We convert the image to RGP and processes it to resize it, normalize it and convert it into a tensor ready for model

Applies softmax to the logits to get probabilities, from this we extract probabilities of the image to be human generated and ai generated

Sends the text and scores to a large language model to generate a human-readable explanation of why the text might be AI-generated or human generated.

After these steps we combine all these into a single result which is outputted.