

MIDI Transformer Tokenization

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Current workflow

1. Specify the MIDI data
2. Select a suitable Tokenizer. Right now we use REMI
3. train the tokenizer with BPE
4. save the tokenizer and vocabulary as json
5. generate training, validation and test sets via `generate_train_val_test_sets.py`
we already augment data within this process if we want to.
6. Our GoePT expects integers as tokens and `np.memmap` expects binary files. We use `np.to_file` in order to create the right binaries

Different tokenizers

- For simple melodies: REMI or MelodyTokenizer.
- For more complex, polyphonic data: Consider PolyphonyTokenizer or NoteTokenizer.
- For structured MIDI data: Use Structured or TSD.
- For music generation: REMI or MIDI-Like might work well.

Things to keep in mind (Open Problems)

- We need to specify the sequence length
- We need to specify the embedding dimension
- We need to specify the vocab_size
- When specifying a *seq_len* > 32 the data generation process fails. I have to investigate this. This problem is related to the function: `mid-itok.split_files_for_training`
- When we want to regenerate the train, val and test sets we need to manually delete the `dataset_` folders! I will write some code for that soon.