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# Makefile for Named Entity Recognition (NER) Task

# Variables
PYTHON=python3
REQUIREMENTS=transformers datasets sentencepiece seqeval

# Install requirements
install:
pip install $(REQUIREMENTS)

# Download dataset
download_dataset:
$(PYTHON) -c "from datasets import load_dataset;
load_dataset('ai4bharat/naamapadam', 'hi')"

# Fine-tune model
finetune:
    $(PYTHON) -c "from transformers import AutoModelForTokenClassification,
AutoConfig, AutoTokenizer, TrainingArguments, Trainer,
DataCollatorForTokenClassification;

config = AutoConfig.from_pretrained('ai4bharat/indic-bert', num_labels=num_labels,
finetuning_task='ner');
tokenizer = AutoTokenizer.from_pretrained('ai4bharat/indic-bert');

model = AutoModelForTokenClassification.from_pretrained('ai4bharat/indic-bert',
num_labels=num_labels);

trainer = Trainer(model=model, train_dataset=train_dataset,
eval_dataset=eval_dataset, tokenizer=tokenizer, data_collator=data_collator,
compute_metrics=compute_metrics, args=args);

train_result = trainer.train(); model.save_pretrained('my_indicBERT');
tokenizer.save_pretrained('tokenizer_indicBERT')"
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# Evaluate model
evaluate:
$(PYTHON) -c "from transformers import AutoModelForTokenClassification; model
=
AutoModelForTokenClassification.from_pretrained('/kaggle/working/my_indicBERT'
);
predictions, labels, metrics = trainer.predict(test_dataset); print(metrics)"
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