



EasyOCR로 사진 속 글자 인식하기

one page proposal

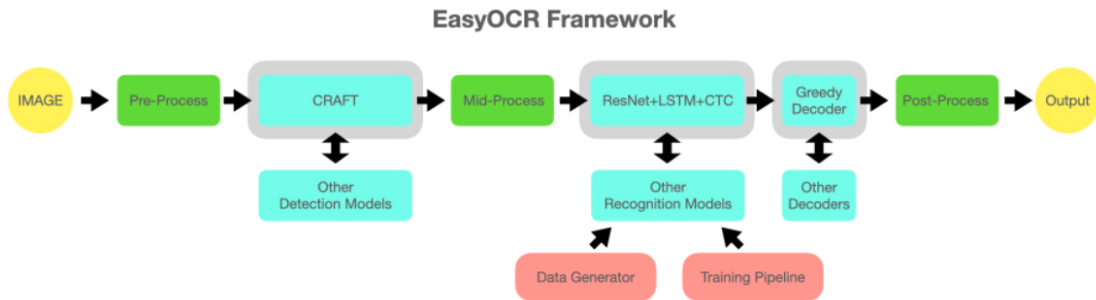
이채림

목표

이미지 속 영어와 한글을 인식하여 바운딩 박스로 그려준 후 결과 값을 표시
예시)



CRAFT/ ResNet/ LSTM / CTC



문자를 감지하는 부분은 Clova AI논문에서 사용된 CRAFT 알고리즘

인식모델 CRNN 모델

특징 추출 ResNet 모델

시퀀스 레이블링 LSTM 모델


decoder로 CTC 모델

진행 과정

- ☐ 글자 학습 데이터 생성
- ☐ 글자 학습 데이터 변환
- ☐ 모델 학습
- ☐ 미세조정(fine-tune)
- ☐ 학습된 모델 테스트
- ☐ 파라미터 조정 및 결과 분석

개발환경

Google Colaboratory


 <https://colab.research.google.com/?hl=ko>



활용

Welcome to Python.org


The official home of the Python Programming Language

 <https://www.python.org/>



pandas

pandas is a fast, powerful, flexible and easy to use open source data analysis and manipulation tool, built on top of the Python programming language.

 <https://pandas.pydata.org/>



Project Jupyter


JupyterLab is the latest web-based interactive development environment for notebooks, code, and data. Its flexible interface allows users to configure and arrange workflows in data science, scientific computing, computational journalism, and machine learning. A

 <https://jupyter.org/>



Matplotlib

Matplotlib is a comprehensive library for creating static, animated, and interactive visualizations in Python. Matplotlib makes easy things easy and hard things possible. Try Matplotlib (on Binder) Be sure to check the Users guide and the API docs. The full text

 <https://matplotlib.org/>



NumPy

Why NumPy? Powerful n-dimensional arrays. Numerical computing tools. Interoperable. Performant. Open source.

 <https://numpy.org/>

scikit-learn

"We use scikit-learn to support leading-edge basic research [...]" "I think it's the most well-designed ML package I've seen so far." "scikit-learn's ease-of-use, performance and overall variety of algorithms implemented has proved invaluable [...]."

 <https://scikit-learn.org/>



GitHub - tensorflow/tensorflow: An Open Source Machine Learning Framework for Everyone

Documentation TensorFlow is an end-to-end open source platform for machine learning. It has a comprehensive, flexible ecosystem of tools, libraries, and community resources that lets researchers push the state-of-the-art in ML and developers easily build and deploy ML-powered applications.

 <http://github.com/tensorflow/tensorflow>

tensorflow/ tensorflow

An Open Source Machine Learning Framework for Everyone

 3k Contributors 196k Used by 165k Stars 87k Forks

Keras: the Python deep learning API

Keras is an API designed for human beings, not machines. Keras follows best practices for reducing cognitive load: it offers consistent & simple APIs, it minimizes the number of user actions required for common use cases, and it provides clear & actionable error messages. It also has extensive documentation and developer guides.

 <https://keras.io/>

PyTorch

Reduce inference costs by 71% and drive scale out using PyTorch, TorchServe, and AWS Inferentia. Pushing the state of the art in NLP and Multi-task learning. Using PyTorch's flexibility to efficiently research new algorithmic approaches.

 <https://pytorch.org/>



<https://github.com/JaidedAI/EasyOCR>