Mochammad Fatchur Rahman

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Skills ——————

GCP: ML-Engine

GKE, GAE, GCF, GCE

Apache Beam (Dataflow)

Apache Kafka

Python

C++

Numpy, Scipy, Pandas, Matplotlib

Big Query, Mysql, Redis

Tensorflow, Keras, D-lib

Opencv, Emgucv

Flask, Flask-SocketIO, Gunicorn

Docker, Docker-Compose

(*)[The skill scale is from 0 (Fundamental Awareness) to 6 (Expert).]

Education

2012 - 2016	Bogor Agricultural Universy (IPB)
	Major: Agricultural and Biosystem Engineering, Dept of Mechanical and Biosystem Engineering
	Thesis: Vision-Based Pineapple Detection and Ripeness Classification
	Thesis Video: youtube video link

Git and Others

Github	github profile link
Pypi	pypi: python repository profile link

Experience

Nov 2016 - Sept 2017	RnD staff (machine learning), WIR Group
Sept 2017 - Oct 2018	AI Engineer, nodeflux.io
Feb 2019 - present	AI Engineer, qoala.id

Awards

2017	The 3rd winner of go-hackaton 2017, held by Go-jek Indonesia

Projects

— [2018-2019] Building a simple-tensor: Simplification of tensorflow operations

This package tries to simplify the usage of tensorflow (before the release of tf.keras, wkwkw). It contains tensor operations and losses. Some project packages are included, ex:

1. Object detection(YOLO-V3) package (from scratch): With the "simple-tensor" you can modify the size of your YOLO-V3 model up to 30 times smaller or 6.7 MB than the original (>200MB).
2. Transfer learning package: A simplification of the tensorflow image classification. It depends on tensorflow slim as base architectures. Currently, "simple-tensor" only support for resnet, densenet, and inception-v4.
3. Segmentation package: Deepl-lab, U-net(progress)
4. RNN package: LSTM from scratch, support for wide, deep, or hybrid architecture.
5. Face recognition: insightface (inferencing only)
6. Object keypoint: further version

Github: Github Link

Pypi: How to install

Qoala.id [2019] Computer Vision for Automate Claim

We are working with some technologies like object detection, segmentation, classification, keypoint detection, face alignment and recognition for building a system of automating insurance claim by video or image. For the infrastructure, we are using the Google Cloud Platform (GCP).

Side Job PT. Pertamina, Unit Kilang Balongan, Vision Based Safety Analysis

Description: We are developing a vision-based video analysis for Balongan Refinery workers. The system must be able to detect violations, ex: not using helm or standard jacket.

This project depends on some technologies:

1. Opencv: Streaming the video from CCTV, manipulating the image.
2. Kafka: Streaming the data between containers
3. Redis: Saving the temporary data, ex: camera URL
4. Tensorflow: Inferencing the input image
5. Gunicorn, Gevent, Flask: Webserver
6. Flask-SocketIO: Broadcasting the resulting image to the users
7. Mysql: DB for the detected violations
8. Docker

Nodeflux.io   [2018] Small Image Reconstruction
Reconstruction of low-resolution image to be a high-resolution with a generative adversarial network (part of deep learning), far better than the opencv resize

Nodeflux.io   [2018] License Plate Recognition
A part of ASIAN Games and IMF Bali Meeting 2018 License Plate Recognition (Jakarta, Palembang, Bandung)

Go-Hackathon[2016] Indonesian Food Images Recognition with Deep Learning
Project video: Youtube video link

WIR Group   [2017] Face Recognition

WIR Group   [2016] Face Gender Recognition
First method: extract an improved local binary pattern and feed it to a classic neural network to predict face gender. Second method: Work with deep learning (convolutional neural network) for getting better performance.

WIR Group   [2016] Face Expression Recognition and Age Estimation
Work with deep learning to recognize the face expression and estimate the age

IPB   [2015] Vision Based Pineapple Detection and Quality Evaluation
Research video: Youtube video link