Min Jung. **Shin**

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Education

Yonsei University   *Exp. Mar. 2021*

DEPARTMENT OF ARTIFICIAL INTELLIGENCE   *Seoul, S.Korea*

- Master Degree

Kwangwoon University   *Mar. 2016 - Exp. Feb. 2021*

MAJOR IN ELECTRONICS & COMMUNICATIONS ENGINEERING   *Seoul, S.Korea*

- Major GPA of 4.14/4.5
- Total GPA of 4.00/4.5

Work Experience

Electronics and Telecommunications Research Institute(ETRI)   *Intern*

ARTIFICIAL INTELLIGENCE RESEARCH LABORATORY   *Jan. 2019 - Feb.2019*

INTELLIGENT ROBOTICS ULSAN RESEARCH SECTION OF INTELLIGENT ROBOTICS RESEARCH DIVISION

- Implemented DORE-MTCNN (Tensorflow version1)
- Preprocessed image data and reviewed face detection model paper

Publication

Detectable Object-Sizes Range Estimation Based Multi-Task Cascaded Convolutional

Neural Networks in the Vehicle Environment   *3rd Author*

2019 IEEE 90TH VEHICULAR TECHNOLOGY CONFERENCE (VTC 2019-FALL)

- Propose the Detectable Object-sizes Range Estimation algorithm (DORE) to estimate the range of detectable face sizes through specific information in the vehicle environment.
- Achieve half of the processing time (MTCNN: about 32ms / DORE-MTCNNN: about 16 ms) with the same accuracy (95.98% on the basis of the NTHU-DDD dataset) compared to MTCNNN.

Research Intetest

Generative Model

CREATE A NEW DATA USING DEEP GENERATIVE MODEL

- A research on the image&video generation
- A research on the transformer in vision
- A research on the disentanglement

Skills

Programming	C, Python, Verilog, Assembly
Deep Learning	Tensorflow, Keras, Pytorch
Data Analysis	Numpy, Pandas, Matplotlib, seaborn, scikit-learn
Platform	Jetson TX2, Jetson Xavier, ARTIK, Raspberry-Pi, DE1-SoC, Arduino

Project Experience

Image to Video Generation
Oct. 2020 - Jen.2020

OVERVIEW

- Generate an image of the desired style based on the user's face image using network blending. (image2image translation based StlyeGAN)
- Generate a video that moves the generated image to the desired condition.(imge2video)

ROLES & RESPONSIBILITIES

- Project Manager
- Designed and implemented new image2video model (Pytorch)

Home-shopping Sales Prediction
Agu. 2020 - Sep. 2020

OVERVIEW

- Predict future sales with home-shopping data for one year in 2019 and external data such as weather, economic index, etc.
- Achieved RMSE score 23 with CV based stacking model

ROLES & RESPONSIBILITIES

- Feature engineering about NLP
- Implemented deep learning stacking model & Auto-encoder for recommendation system

Emotional Voice Conversion using GAN
Mar. 2020 - Jul. 2020

OVERVIEW

- Generate a new voice by selecting the target emotion and degree for the target emotion
- By extracting the fundamental frequency and spectral envelop of voice data, train multi domain and interpolation with RelGAN

ROLES & RESPONSIBILITIES

- Preprocessed speech data
- Implemented a model that applies WORLD vocoder and CycleGAN VC2 to AttGAN and RelGAN (Tensorflow version 1)

Driver Drowsiness Detection using Video and PPG-sensor
Aug. 2019 - Jun. 2020

OVERVIEW

- Detecte driver drowsiness condition by video and biometric signals in real time
- Detecte driver face using MTCNN&KCF-trakcer and estimate pose using Alpha-pose in real time
- Extract PPG signal through serial communications with Ubpulse360

ROLES & RESPONSIBILITIES

- Team Leader & Main Coder
- Implemented detection model of the driver's face with the MTCNN and used the KCF tracker for frame with no object detected
- Designed and implemented a multi-modal deep learning model (Tensorflow version 2)

Super Resolution
Jun. 2020

OVERVIEW

- Shallow CNN-based super resolution using Sub-pixel convolution layer without using GAN for fast training and fast inference time
- Implement total architecture by Tensorflow version 2

Side Projects

AUTHOR

- Smart Signal Lamp System using Object Detection(YOLO) -2019 Summer
- Fire Notification System using MOSFET and Raspberry-PI -2019 Fall
- Frequency Harmonic Generator with Digital Logic Circuit -2018 Spring
- Console Rhythm game by C++ - -2017 Spring

Awards & Honors

AWARD

2018	**Finalist,** 10th Engineering Design Camp - Control of Drone	*S.Korea*
2017	**Incentive Award,** Portfolio Competition	*Kwangwoon Univ*

Honors

2020	**Academic Scholarship,** awarded from KB to students with high achievements throughout the total GPA	*S.Korea*
2019	**Academic Scholarship,** awarded to students with high achievements throughout the semester	*Kwangwoon Univ*
2018	**Academic Scholarship,** awarded to students with high achievements throughout the semester	*Kwangwoon Univ*
2017	**Academic Scholarship,** awarded to students with high achievements throughout the semester	*Kwangwoon Univ*

Extracurricular Activity

Google Machine Learning Bootcamp *Oct. 2020 - PRESENT*

MEMBER

- Complete Andrew Ng's class and study about Cloud Server.

Generative Model Seminar *Sep. 2020 - Dec. 2020*

SEMINAR LEADER

- Study about VAE,GAN,self-supervised learning,few-shot,etc.

Big data & AI study club "Tobigs" *Jan. 2020 - PRESENT*

13TH MEMBER

- Study about Machine learning & Deep learning

DITTO *Mar. 2016 - Feb. 2017*

MEMBER

- Programming club of the department of electronics & communications engineering, Kwang-Woon university