Dongwook Kim

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EDUCATION

Kwangwoon Univ.
Seoul, S.Korea

B.S in Information Convergence, Major in Data Science
Jan 2018 to Current

- Total GPA 3.96/4.5 , Major GPA 4.14/4.5 (Credits taken : 116/133)

Qualcomm Institute, UC San Diego
SanDiego, CA, US

Qualcomm Institute AI Development Project
Jul 2022 to Aug 2022

- Developed a classification model using the KNIME framework
- Prevent abusing through analyzing and classifying user characteristics on Instagram
    - Utilized data augmentation and crawling techniques for additional data collection

INTERNSHIP

Kwangwoon Univ.
Seoul, S.Korea

Visual Informatics lab
Jul 2021 to Current

- Undergraduate Research Assistant for 2 Years
- Conduct research in computer vision and computer graphics
- Study the latest research and review papers about Computer Vision and Deep Learning

AWARDS

3rd prize, Student Creative Design Course
KwangWoonUniv,Seoul, S.Korea

Coverist : Book Cover Generator AI service
Jun 2022

- Developed an AI-based book generation service using various tags.
- Provided free cover generation services through mobile app(android) and web platform
- Managed end-to-end projects, including AI development, server-side implementation, web/app development, and design(UX,UI)
- Link of project(pdf)

1st prize(Minister's Award), AI contest
Dacon

AI Competition for Software-Centered Universities
Oct 2022

- OCR task for signage image recognition
- Improved performance through data augmentation and ensemble OCR models

PUBLICATION

HCI Academy of Korea

Synthesized training data for a ship 3D surround view learning model based on user evaluations (first author) *Feb 2023*

- Link of paper
- Submitted "Synthesized training data for a ship 3D surround view learning model based on user evaluations" paper to HCI conference

PROJECTS

Visual Informatics lab(with, Avicus) *KwangWoonUniv,Seoul, S.Korea*

Distortion-free SVM generation for boat using Unreal Engine 5 *Jun 2022 ~ Current*

- Gathering data(Unreal Engine 5)
    - Build virtual environment (marina)
    - Implement virtual sensors (e.g. LIDAR sensor)
- Used Deep Learning Technic
    - LIDAR super resolution by implicit LiDAR Network(ILN)
    - image segmentation using RGB images
    - Create image realization by using realism filters to synthetic data
- Estimated object heights by lidar/ RGB sensors calibration
    - Estimated 3D coordinates using LiDAR sensor's field of view and depth
    - Calibration between RGB and LIDAR sensor
- real-time communication between Unreal Engine and Python using UDP protocol
    - Develop a pipeline for scene and geometry reconstruction using Panda3D
- Creating distortion-free SVM
    - Research methods for distortion-free SVM through geometry reconstruction
    - Currently working…

Other projects

VR : boat simulation with Unreal Engine 5 *Dec 2022*

- VR Boat Navigate Simulation through Oculus VR Device
- Implement realistic ship docking environment using Unreal Engine Assets
- Built realistic ship steering environment through hand gesture recognition using Oculus devices

AR : Three.js with Mediapipe *Jun 2022*

- Face capture , Rigging avatar by mediapipe and three.js
    - Adjusted virtual character facial expressions based on computation using face landmarks
    - Studied kinematics for avatar rigging
- Link of project(github)

ML/DL : dementia prediction project *Jun 2022*

- Predicting Dementia through Tabular Data and Wearable Device Signals
- Ensembled ML techniques for processing table data and DL techniques for signal data processing
    - Classifing various signals from wearable devices
- Link of project(github)

Computer Vision : OpenCV camera calibration and Panda 3D *Current*

- XR project using OpenCV camera and panda 3D
- Currently working ···

Deep Learning : Classifying types of tiling defects *Current*

- Participated in an AI competition for classifying types of tiling defects(dacon)
- Currently working ···

SCHOLARSHIP

Kwangwoon Univ. *Seoul, S.Korea*

Academic excellence scholarship *Aug 2021*

Academic excellence scholarship *Jan 2022*

SKILLS

Part	Tech Stack	Environment
Simulation(digital twin)	Unreal Engine	C++, Blueprints
DeepLearning	Tensorflow,Pytorch	Python
ComputerVision	OpenCV	Python ,C++
AR	Three.js, Panda3D	Python, JavaScript
VR	Unreal Engine	Blueprints

If you want to know more about me, please check my blog or github link below

Git hub https://github.com/donguk071
Tech blog https:// donguk071.github.io

If you want to contact me, please check my e-mail or phone address below

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