

Seung-cheol Park

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EDUCATION

Bachelor's degree of Electric and Electronics Engineering

Konkuk University, Advisor: Sun Yong Kim

03.2018 - 02.2024 (expected)

RESEARCH INTERESTS

Machine Learning and Reinforcement Learning

RESEARCH EXPERIENCE

Research Assistant, Smart Computing Lab, Konkuk Univ.

- Beauty Item Recommendation System
 - Recommendation of skin tone and daily color via user's Hue, image(skin), and skin condition.
 - Deep Learning, Collaborative Filtering, Content-based Recommendation
- Machine Learning based position recommendation system using conversation history and de-identified military personnel DB (ETRI, ROK Personnel Command).
- Development of neuro-symbolic battlefield situation reasoning technology through knowledge convergence (ETRI).
 - Supports the commander by considering various variables (infantries, armored vehicles, aviation or etc.) occurring on the battlefield.
- Face Swap, NERF and Diffusion applications.

09.2021 - 01.2023

Research Assistant,

Ultra-Intelligent Computing/Communication Lab, Chung-Ang Univ.

06.2023 -

AWARDS & HONORS

Embedded Software Contest 2022

Hyundai Motor Company President Award

12.2022

E²FESTA 2022 Capstone Design Fair

Ministry of Trade, Industry and Energy Award

11.2022

Konkuk University Capstone Design Contest

2nd Place

11.2022

POSTECH OIBC Challenge

Award of finalist

08.2021

RECENT PROJECTS

TCGA Biomarker Identification

- Machine learning implementation of RNA-seq technique that analyses transcriptome of identify differences in expression.
- Learning gene expression data (Count matrix) with machine learning (GAN-GCN) and predicting cancer progression.
- Learning with each gene as a node.
- Structure to generate and learn adjacency matrix.

10.2022 - present

Built-In Driving Assistant

- Connected car and ADAS implementation by using black box and front camera.
- Preprocessing study for image processing to improve Object detection accuracy and speed.
- Study on AI model that uses adjacency between objects recognized by a camera for situational awareness and judgement while driving.
- Perform lightweight model for execution on local device, construction of networks between car (client) and server for heavy model.
- Seamless communication between vehicle (client) and server using socket communication and http.

08.2022 - present

Crop Disease Classification

- Diagnosis of crop diseases using crop images and crop cultivation environment (time series) data.
- Analyzing data through EDA, changing sampling or weight loss by class and pseudo-labeling to overcome data imbalance problems.
- Developed a model with CNN and LSTM ensemble structures to process image and time series data.

01.2022

Autonomous Driving Contest

- Hosted by Kookmin University, 5th Place.
- Built 1/10 scale autonomous driving car including camera, ultrasonic sensor, lidar and IMU sensor with Nvidia Jetson platform.
- Development of autonomous driving algorithms including lane following, sign recognition, obstacle avoidance and parking.
- RANSAC regression to improve identification of objects (lanes or obstacles etc.).

05.2021 - 11.2021

Prediction of Solar Power Generation

- Predicting solar power generation through data collected from weather stations and solar power plants.
- To improve accuracy, train a model by weather and ensemble.
- Weighting by features to avoid useless data.

08.2021

MILITARY SERVICE

Intelligence Soldier

Sergeant expired, Republic of Korea Army (ROKA) 3rd Corps.

01.2019 - 08.2020