HAKAN KARASU

Personal Information

Date of birth: 04.04.1997
Nationality: TURKISH
Address:
02792 Korea Institute of Science and Technology Building B NO:324, SKT 02792, KOREA
Phone number: +905062048575
Email address: hakankarasu97@hotmail.com
Web: https://hakankarasu.github.io/

Profile

Hello, my name is Hakan KARASU, a highly skilled Mechanical Engineer currently employed at the prestigious Korea Institute of Science and Technology (KIST) in Korea. Additionally, I am concurrently pursuing a master's degree at the renowned University of Science and Technology (UST). My research focuses on the cutting-edge utilization of deep learning methodologies, specifically leveraging convolutional neural networks and Gradient-weighted Class Activation Mapping (CBAM+GradCAM), to predict the efficiency of electrochemical systems. My unwavering commitment to machine learning and deep learning techniques is evident in my work.

Work Experience

09/2021 – 08/2023
SEOUL, Korea

Deep learning Engineer
Korea Institute of Science and Technology

My research project is focused on developing model that can not only predict the performance of electrochemical system also the underlying cause of catalyst degradation through explainable artificial intelligence (XAI).

09/2017 – 08/2018
Dusseldorf, Germany

Research assistant (intern)
Center of Flow Simulation

I worked within two research and development projects namely on “Biomass Combustion - Improving the energetic performance of a wood chips firing furnace” (Python) and “Improving the aeroacoustics of small axial wind turbines”.

09/2020 – 08/2021
Seoul, Korea

Research intern
Korea Institute of Science and Technology

Skills

Python	C++	SOLIDWORKS	Robot Operating System
Professional	**Elementary**	**Professional**	**Elementary**

Strengths

Preprocessing of data (fitting, zero padding, denoising) # Train the deep learning model on dataset
Compute the gradients of the output with respect to the input features
Generating attention map (Grad-CAM) # Interpreting attention regions # Time management # Teamwork
Communication

Hobbies

Exploring distant lands

Getting lost in a good book

Capturing moments

Feeling the music

Every kind of sport

Achievements

I have ranked fourth among the faculty of engineering students graduating in 2019 at Sakarya University

Certificates

04/2015
Solidworks
Ucuncu binyil

09/2019
Erasmus +
Sakarya University

09/2017
Exchange Program
University of Putra Malaysia

Publications

04/2023
Non-linear Catalyst Deactivation through Explainable Artificial Intelligence
(Under Review)

Education

09/2015 – 07/2019
Sakarya, Türkiye
Mechanical Engineer | Bachelor Degree
Sakarya University

09/2021 – present
Daejeon, Korea
Master Degree
University of Science and Technology

SKT, Korea

References

alicemal@prof-benim.com
Prof Ali Cemal Benim
Center of Flow Simulation

References

eau@kist.re.kr

Prof. Chansoo Kim
Korea Institute of Science and Technology

B.S. Computer Science and Engineering, Seoul National University (SNU), 2003
M.S.,
Statistical Mechanics & Complex Systems, Massachusetts Institute of Technology (MIT), 2008
Ph.D. Studies (course
completion), Massachusetts Institute of Technology (MIT)

ulee@kist.re.kr

Prof Ung Lee
Korea Institute of Science and Technology