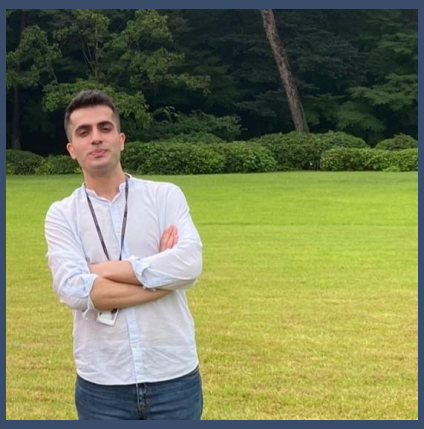

# HAKAN KARASU

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## Contact


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**WWW**

https://bold.pro/my/hakan-karasu/206r


## Websites, Portfolios, Profiles

- https://hakankarasu.github.io/

## Skills

Python

C++

SOLIDWORKS

Matlab

Java

Hello, my name is Hakan KARASU, a highly skilled AI 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 History

2021-09 - 2024-08

### Deep learning Engineer

*Korea Institute of Science and Technology, Seoul/Korea*

- 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).

2020-09 - 2021-08

### Research intern

*Korea Institute of Science and Technology*

2017-09 - 2018-08

### Research assistant (intern)

*Center of Flow Simulation, Dusseldorf, Germany*

- I worked within two research and development projects namely on "Biomass Combustion - Predicting the adiabatic flame temperature" (Python) and "Improving the aeroacoustics of small axial wind turbines".
- Streamlined data entry processes for increased efficiency and accuracy in results reporting.

## Education

2015-09 - 2019-05

### Mechanical Engineer, Bachelor Degree

*Sakarya University - SAKARYA, TÜRKIYE*

- Final Grade: [3.41/4]

2021-05 - Current

### Master of Science: System Energy Engineering

*University of Science And Technology - DAEJEON, KOREA*

- Final Grade: [4.23/4.5]

MS OFFICE

Report Writing

Exploring distant lands

Getting lost in a good book

Capturing moments

Feeling the music

Concept Development

## Languages

**Turkish:** Native language

Korea B1

Intermediate

English C1

Advanced

## Certifications

Solidworks, 04/2015

Erasmus +, Sakarya University, 09/2019

AI cerrificate UST

## Capable of

**Preprocessing of Data ( fitting, zero padding, denoising), Train deep learning model on dataset, Compute the Gradients of the Output from Last Convocational Neural Network with Respect Feature map, Generating Attention Map (Grad-CAM), Interpreting Attention Regions**

## International Conference

**Deciphering the Roots of Catalyst Degradation in Electrochemical Reduction Via Interpretable AI (AIChE ANNUAL MEETING-2023 | November 5 , 2023 Orlando, FL**

## Personal Information

- **Date of Birth: 04/04/97**
- **Nationality: TURKISH**

## Publications

**Non-linear Catalyst Deactivation through Explainable Artificial Intelligence, Under Review, 04/2024**