Hakan KARASU
Nationality: Turkish **Date of birth:** 04/04/1997 **Gender:** Male

⬜ **Phone number:** (+82) 010-8059-2829

⬜ **Email address:** hakankarasu97@hotmail.com

⬜ **Website:** https://hakankarasu.github.io/

⬜ **Adress: Seoul/KOREA**
⬜ **Adress Home: Inkilap Mah Umraniye / Istanbul / TURKIYE**

About Me

Hey! It is **Hakan KARASU, and** I am a **Mechanical Engineer** at the Korea Institute of Science and Technology (KIST) in Korea. I am also pursuing a master's degree at the University of Science and Technology (UST). Currently, My research focuses on the application of deep learning (CBAM+GradCAM) on the electrochemical system. I enjoy machine learning, deep learning, its application as well as robot operating systems, and learning new things daily. I am passionate about developing models that can solve real-life problems I am constantly learning new things to improve my skills.

Work Experience

Korea Institute of Science and Technology (KIST) [01/09/2021 – Current]
City: Seoul
Country: 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.
(1D Convolutional Block Attention Module(CBAM)+GRADCAM(XAI)
Hand-crafted machine learning models
Note: This project is mostly based on data-driven

Supervisor: Prof. Ung LEE (Principle Researcher, Clean Energy Research Center, KIST)
Demonstration of Omni-Directional Mobile robot in KIST

Supervisor: Senior Researcher Center for Healthcare Robotics (Soonkyum Kim)

Research Assistant (Intern)
Korea Institute of Science and Technology [23/09/2020 – 31/08/2021]
City: Seoul
Country: South Korea

Research Assistant (Intern)
Center of Flow Simulation [09/2017 – 31/08/2018]
City: Dusseldorf
Country: Germany

Supervisor: Prof. Dr. Ing, Ali Cemal Benim (Head of Center of Flow Simulation)Supervisor:

Dr. Bjorn Pfeiffelmann

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 (Computational Fluid Dynamics)".

Korea Institute of Science and Technology [06/01/2020 – 31/08/2020]Throughout
 these projects, I used:

- Python
- Linux
- C ++
- Solid-WORKS (for prototype case design)
- ROS (Robot Operating System-Navigation) (Real-Time Robot Navigation implemented at KIST)
- Fluent(ANSYS)
- ICEM-CFD

Education and Training

Umraniye High School
Address: Umraniye/Istanbul **Website:**
İSTANBUL / ÜMRANİYE - Ümraniye
Merkez Anadolu Lisesi (meb.k12.tr)

Bachelor Degree Mechanical Engineer
Sakarya University / Sakarya /Turkey [09/2015 –09/2019]
Address: Sakarya (Turkey) **Website:**
www.sakarya.edu.tr**Final grade:**
3.41/4
Master Degree in Division of Energy & Environment Technology
University of Science and Technology [09/2021 –Current]
Address: Daejeon /Korea **Website:**
https://www.ust.ac.kr**Final grade:**
4.2/4.5

Language Skills

Mother tongue(s): **Turkish**

Other language(s):

English	**Korean**	**German**
LISTENING C1 **READING** C1 **WRITING** C1	Topic 1 Level 2	Beginner

AI / Machine Learning / Deep Learning
Python / Tensorflow / PyTorch / ONNX & ONNX Runtime / MATLAB / Julia / Pandas Numpy Scikit-learn Scipy libraries

Robot Operating System
Ros

Prototyping Products
SolidWorks

Others
/ Real-time Linux, Gazebo (ROS)

Conferences and Seminars

Implementation of deep learning on the electrochemical systems
[KICHE / Oral Presentation] [10/2021] [Gwangju/KOREA]

Link: www.kiche.or.kr

Conference
[Kiche /Oral Presentation] [10/2022] [BUSAN KOREA]

Link: www.kiche.or.kr

Honours and Awards from Engineering Faculty
Sakarya University Engineering Faculty [2019]

I have ranked fourth among the faculty of engineering students graduating in 2019.

Scholarship
Mevlana Scholarship [best student award in faculty]

Hobbies and Interests
Basketball, football, hobby electronics, 3D printing, cooking, theater and books.

Certificates
AI (Artificial Intelligence) Education Certification (UST)

Paper Publication
Ongoing