



Gökhan Dede

Ph.D. Candidate / M.Sc. Architect / Data Enthusiast

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About

Gökhan Dede is a doctoral candidate in the Department of Architecture, Built Environment, and Construction Engineering at Politecnico di Milano. In July 2023, his doctoral studies will be officially completed with a dissertation titled "Machine Learning-Aided Generative Design Methodology for a Mars Habitat." Gökhan received the IBM Data Science Professional Certificate from the IBM Skills Network on Coursera in March 2023, after conducting AI-based research for his doctoral dissertation.

Before obtaining his doctorate in architecture, Gökhan earned a Master of Science in Construction and Project Management from Mimar Sinan Fine Arts University in Istanbul, Turkey, and spent nearly four years working on construction projects of various dimensions. To establish a waste management system for the construction industry, he conducted research to integrate lean construction and Building Information Modeling (BIM) levels.

His passion for innovative technological applications compels him to continuously acquire new knowledge and keep abreast of the newest technologies. He is an architect, designer, and data enthusiast.

Research Grant

2018 - 2022 | by Ministry of Turkish National Education
for Language and Ph.D. Education in Foreign Countries

Education

Oct. 2019 - July 2023	Doctor of Philosophy Politecnico di Milano Architecture, Built Environment, and Construction Engineering Dissertation : Machine Learning-Aided Generative Design Methodology for a Mars Habitation Supervisor : Prof. Massimiliano Nistri Co-Supervisor : Prof. Ingrid Maria Paoletti	Milan, Italy
Sept. 2018 - Feb. 2019	English As a Second Language Rice University	Houston, USA
Oct. 2016 - Aug. 2018	Master of Science Mimar Sinan Fine Arts University Construction and Project Management Dissertation : Lean and BIM based Waste Management in Construction Industry Supervisor : Prof. Sema Ergönül	Istanbul, Turkey
Sep. 2009 - Aug. 2014	Bachelor's Degree of Architecture Izmir Institute of Technology	Izmir, Turkey

Certifications

March, 2023	IBM Data Science Professional Certification IBM Skills Network
October, 2022	Deep Learning Bootcamp Global AI Hub
Septem., 2022	Python Bootcamp Global AI Hub
July, 2022	Python for Machine Learning Global AI Hub
February, 2022	Data Analysis with Python Global AI Hub

Workshops

Jan. 2021 - May 2021	Resilience of Italian Cities: Analysis of the city streets with AI Cities were visited to take view photos by using a 360-degree camera https://mindearth.ch/2021/05/28/street-view-imagery-vocal-and-ai/
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Experience

April 2022 - July 2022	MindEarth - Short-term Consultancy "Street-view pilot survey" and "Image labelling"	Milan, Italy
Dec. 2017 - May 2018	Istanbul Aydın University Design Architect - Educational Building	Istanbul, Turkey
Feb. 2015 - Dec. 2017	Iki Design Group Architect in Supervision Team - Emaar Square Project	Istanbul, Turkey
June 2014 - Feb. 2015	Maksem Yapı Ticaret A.Ş. Site Architect - Bulvar Istanbul Residential Project	Istanbul, Turkey

Data Projects

+ CO₂ Emission Prediction for Vehicles via ANN

Python: TensorFlow, Keras, Scikit-learn, Numpy, Pandas, Seaborn

+ Credit Card Customer Segmentation via K-Means Clustering

Python: Scikit-learn, K-Means Clustering, Kernel PCA, Seaborn

+ Medical Insurance Cost Prediction with Ridge Regression

Python: Scikit-learn, Ridge Regression, GridSearchCV, Plotly, Seaborn

+ Falcon 9 First Stage Landing Prediction

Python: Scikit-learn, Logistic Regression, SVM, KNN, Decision Tree

Professional Skills

Coding Skills

Python for ML, SQL, HTML, Scikit-learn, TensorFlow, Keras, Seaborn

Online Environments and Management Tools

IBM Watson Studio, GitHub, MS Excel, MS Project

Visualization and Design Skills

Tableau, Plotly|Dash, Adobe Photoshop, Illustrator, InDesign

3D Modelling & Simulation

Revit, Rhinoceros Grasshopper, AutoCAD, SkeethUp, Lumion3D

Languages

Turkish | Native **English** | Full professional proficiency

Italian | Elementary proficiency

Publications

• Dede, Gökhan, *Machine Learning-Aided Generative Design Methodology for A Mars Habitation Shell*.

(It will be submitted as a research article following the conclusion of Ph.D.)

• Dede, Gökhan, *Assessment Of Mars Analog Habitation Plans Using Network Analysis Methodologies*

(Submitted to the Journal of Advances in Data Science and Adaptive Analysis – Under Review since October 8).

• Dede, Gökhan (2022), *Performance-driven design methodology for habitation shell design in extreme conditions on Mars*.

Frontiers of Architectural Research, ISSN 2095-2635.

<https://doi.org/10.1016/j.foar.2021.10.005>.

• Dede, Gökhan (2021), *A Novel Habitation Design Methodology for Extreme Environments of Earth*.

Proceedings of The 8th International Conference on Architecture and Built Environment with AWARDS, pages 78-89, S.ARCH 2021, November 2021, ISBN 978-3-9820758-7-7.