Dogukan Mehmet KILINC

Artificial Intelligence and Machine Learning Engineer

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As an AI and Machine Learning Engineer at FİGES Inc., I actively contribute to industrial R&D projects at the intersection of Deep Learning, Computer Vision, and Embedded AI. Using tools such as MATLAB/Simulink, Python, and CUDA, I focus on developing robust algorithms and designing end-to-end pipelines that translate complex data into practical, real-world solutions. A significant part of my work involves deploying and optimizing AI models for edge devices—particularly utilizing NVIDIA Jetson platforms to ensure high-efficiency, real-time performance in autonomous and embedded systems. To support my hands-on industry experience with a strong theoretical foundation, I am simultaneously pursuing my M.Sc. at Bursa Technical University. In my academic research, I explore the practical applications of advanced control strategies, focusing on optimizing efficiency and stability for renewable energy systems and Fuel Cell Electric Vehicles (FCEVs). Grounded in my electrical and electronics engineering education from Pamukkale University, and enriched by the diverse perspective gained from my international work experience in Denmark and dual Bulgarian citizenship, I strive to approach modern engineering challenges with an adaptable, collaborative, and solution-oriented mindset.

SKILLS

- MATLAB & Simulink
- Artificial Intelligence
- Model-Based Design
- Computer Vision
- Python & Data Analysis
- Edge AI & Hardware Deployment

PROFESSIONAL EXPERIENCE

FİGES Inc. **Bursa / Türkiye**
Artificial Intelligence and Machine Learning Engineer *Feb. 2025 – Present*

- Executed design and simulation of AI-powered autonomous systems using Model-Based Design methodologies within the MATLAB & Simulink environment.
- Delivered advanced technical training sessions to leading engineering firms and academic institutions; provided project-based consultancy to R&D teams on MATLAB/Simulink workflows.
- Developed data-driven machine learning models for condition monitoring, fault detection, and Remaining Useful Life (RUL) estimation using the Predictive Maintenance Toolbox.
- Currently advancing R&D efforts on perception algorithms using Lidar and Image Processing Toolboxes, with a specific focus on deploying and optimizing these models for real-time performance on NVIDIA platforms via GPU Coder.

FİGES Inc. **Bursa / Türkiye**
Candidate R&D Engineer
Oct. 2023 – Feb. 2025

- Conducted AI and ML research projects using MATLAB & Simulink
- Focused on visual perception and deep learning models

FİGES Inc. **Bursa / Türkiye**
AI and ML Engineer Intern

Sep. 2023 – Oct. 2023

- Conducted AI and ML research projects using MATLAB
- Worked on small-scale computer vision tasks
- Applied deep learning techniques for object detection and recognition

ArVis Technology **Istanbul / Türkiye**
Deeptech/AI Research & Development Specialist / Intern

Aug. 2023 – Sep. 2023

- Developed a multidisciplinary understanding of AI and deep-tech integration through an expert-led training program, focusing on cutting-edge trends and the application of AI systems to address real-world industrial challenges.

AES Group **Bursa / Türkiye**
Automation Engineer Intern

Jul. 2023 – Aug. 2023

- Contributed to the full production lifecycle of industrial wood processing machinery, executing electrical assembly, control panel wiring, and system commissioning, while collaborating with software teams to resolve hardware-software integration challenges and ensure seamless automation.

Wolt **Copenhagen, Capital Region / Denmark**
Courier

Mar. 2021 – Sep. 2021

- Established and operated a sole proprietorship as a courier in Denmark during the COVID-19 period, managing all aspects of finances, tax compliance, and scheduling independently. This experience honed entrepreneurial skills, self-discipline, and customer relations through reliable service delivery in a foreign market.

EDUCATION

BURSA TECHNICAL UNIVERSITY *Aug. 2024 – Present*
Master of Science (M.Sc.), Electrical and Electronics Engineering
GPA: 3.83 / 4.00

- Specifically focused on the design and simulation of ANFIS-based Maximum Power Point Tracking (MPPT) controllers for Proton Exchange Membrane Fuel Cells (PEMFC). Leveraging MATLAB/Simulink for comprehensive system modeling, the research aims to optimize energy output and system stability under dynamic conditions by implementing hybrid AI-driven control strategies.
- I continue my education with the students (more than five) I mentor.

Marmara University *Oct. 2025 – May. 2026*
Institute of Population and Social Research, Data Analysis School, Artificial Intelligence | Data Analysis

- I am enrolled in the 7-month "Advanced Professional Certification in Data Analysis and Artificial Intelligence," a YÖK-supported program coordinated by Marmara University with academic backing from METU, Boğaziçi, and ITU. This rigorous curriculum expands my expertise in statistics, panel data analysis, Machine Learning, and Deep Learning. Leveraging tools like Python, R/R Studio, and SPSS, I am advancing my skills in complex model building and data-driven decision-making, with a specialized focus on Generative AI and LLMs.

PAMUKKALE UNIVERSITY *Sep. 2018 – Dec. 2023*
Electrical and Electronics Engineering
GPA: 2.85 / 4.00

Thesis: Real-Time Recognition of Basic Traffic Signs Using Image Processing

- In this study, real-time classification and recognition of traffic signs are discussed. In this framework, firstly, a data set was created for each of the five different traffic sign classes. A series of image preprocessing steps were performed before training the datasets of images related to traffic signs. The datasets containing the images obtained because of preprocessing were used to train GoogleNet, one of the deep learning models. The study was carried out in MATLAB environment.

PUBLICATIONS

- **Kılınç, D. M.;** Bayrak, G. Development of an Innovative ViT-SNN Based PQD Classification Method Reducing Energy Consumption in Power System Data Centers. (In Preparation).
- **Kılınç, D. M.;** Fistikçioğlu, M.; Bayrak, G. Hierarchical Federated Learning and Gain-Scheduled Control for Transient Stress Mitigation in PEM Fuel Cells. (In Preparation).
- Fistikçioğlu, M.; **Kılınç, D. M**.; Bayrak, G. Design and Performance Analysis of a Type-2 FLC Controller for a Fuel Cell Electric Vehicle Powertrain. *Smart Energy Systems* **2026**, *1* (1), 3.

CONFERENCE PRESENTATIONS

- M. Fıstıkçıoğlu, **D. M. Kılınç** and G. Bayrak, "A New Hybrid Gain-Scheduled Adaptive Neuro Fuzzy Inference Controller Design for Improving the Output Stability of a Fuel Cell Stack," in Proc. 10th International Hydrogen Technologies Congress (IHTEC-2026), Istanbul, Turkey, May 10-13, 2026.
- **D. M. Kılınç** and G. Bayrak, "CWT-CNN-Based Intelligent Hybrid PQD Classification Method for A PV Power Plant," in *Proc. 5th World Energy Storage Conference (WESC-2025)*, Istanbul, Turkey, Dec. 7-10, 2025, pp. 255-258.
- G. Bayrak, A. Yılmaz, M. O. Genç and **D. M. Kılınç**, "Modeling Energy Management System of A Small Powered FCEV Considering Load Demand," in *Proc. 5th World Energy Storage Conference (WESC-2025)*, Istanbul, Turkey, Dec. 7-10, 2025, pp. 353-356.

PROJECTS

Deploy Real-Time YOLOv9 Object Detection on NVIDIA Jetson AGX Orin using Simulink

- Deployed a YOLOv9-based real-time object detection and tracking system on the NVIDIA Jetson AGX Orin using Simulink. Processed live IP camera streams via TensorRT-optimized CUDA code generated by MATLAB Coder.

LinkedIn CV Analyzer (Powered by Local LLMs)

- Developed a local, privacy-focused web application using Streamlit, Ollama, and PyMuPDF to automatically parse and analyze engineering resumes.
- Integrated local Large Language Models (such as Qwen2.5 and Phi-4) to extract candidates' technical skills and intelligently recommend relevant MATLAB & Simulink toolboxes based on their professional profiles.

CERTIFICATES

- **Feature Extraction Techniques for Signals**
  (MathWorks, Oct. 2025)
- **Fundamentals of Accelerated Computing with Modern CUDA C++**
  (NVIDIA, Sep. 2025)
- **Getting Started with Accelerated Computing in CUDA C/C++**
  (NVIDIA, Aug. 2025)

- **Getting Started with Deep Learning**
  (NVIDIA, Jul. 2025)
- **Exploratory Data Analysis with MATLAB**
  (MathWorks, Jul. 2024)
- **Advanced Deep Learning Techniques for Computer Vision**
  (MathWorks, Apr. 2024)
- **Deep Learning for Object Detection**
  (Udemy, Jan. 2024)
- **Image Segmentation, Filtering, and Region Analysis**
  (MathWorks, Jan. 2024)
- **Computer Vision for Engineering and Science Specialization**
  (MathWorks, Dec. 2023)
- **Neural Networks and Deep Learning**
  (DeepLearning.AI, Dec. 2023)
- **Machine Learning with MATLAB**
  (MathWorks, Nov. 2023)
- **Deep Learning with MATLAB**
  (MathWorks, Oct. 2023)
- **Feature Engineering**
  (Miuul, Aug. 2023)
- **Machine Learning**
  (Miuul, Aug. 2023)
- **Python Programming for Data Science**
  (Miuul, Jul. 2023)
- **Image Processing with MATLAB**
  (MathWorks, Nov. 2022)

LANGUAGES

- **Turkish** (Native Langauge)
- **English B1**

REFERENCES

- **Prof. Dr. Aydın KIZILKAYA**
  Department of Electrical and Electronics Engineering
  Pamukkale University, Turkey
- **Assoc. Prof. Dr. Gökay Bayrak**
  Department of Electrical and Electronics Engineering
  Bursa Technical University, Turkey

Contact information will be provided upon request.