# Hüseyin Avni Yaşar

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## Summary

I have graduated from Middle East Technical University with a Bachelor's degree in Mechanical Engineering.
I am currently a Master's Student in Computational and Applied Mathematics specializing in Deep Learning at Middle East Technical University, Turkey.
I have worked as a Design Engineer for 3.5 years in Roketsan. 1.5 years focused on designing algorithms and functional models, remaining two years concentrated on Machine Learning.

I have a proven ability in data-driven mathematical modeling, statistical data analysis, algorithm development, numerical computations, and computational physics.
I have an experience in the fields of Data Science, Machine Learning, Deep Learning, Physics Informed Neural Networks, and Optimization.

Programming Skills: Python, MATLAB
Deep Learning Frameworks: PyTorch, Tensorflow

## Experience

### Physics Machine Learning Engineer
Roketsan

May 2020 - Present (2 years +)
• Data analysis and modeling ( with Matlab and Python)
• Research and implementation in Deep Neural Networks
• Developing machine-learning-based solutions to augment physical simulations
• Data pre-processing (clean, prepare, and manipulate data); feature extraction; model training and testing; model evaluation and improvement; visualization

### Design Engineer
Roketsan

Aug 2018 - May 2020 (1 year 10 months)
• Development of design automation process for commonly used mechanical components
• Presentation, justification, and reporting of design studies
• Participating in research and development projects
• Designing optimization algorithms and functional models
• Functional specification and integration
• Able to break down a large problem into manageable components.

### VLA Project Engineer (Part-Time)
Turkish Aerospace
Jan 2018 - Jul 2018 (7 months)
TAI-METU Very Light Aircraft Project

Flight Control System Design

**Engineering Intern**
Toyota Motor Manufacturing Türkiye
Aug 2017 - Sep 2017 (2 months)

## Education

**Orta Doğu Teknik Üniversitesi / Middle East Technical University**

Master of Science - MS, Computational and Applied Mathematics
Sep 2019 - Jun 2022
GPA: 3.30
Specialization in Machine Learning | Deep Learning
Thesis: Development of Multi-Fidelity Trained Artificial Neural Network

Courses Taken:
➢ Deep Learning
➢ Sparse Matrix Computations
➢ Numerical Optimization

Related Projects:
➢Momentum Batch Normalization for Deep Learning with Small Batch Size
• Reproducing a paper without a code implementation.
• Implementing the models described in the paper and obtain the acceptable results
• Applying Momentum Batch Normalization method to image classification tasks
• Conducting experiments on CIFAR10 and CIFAR100 datasets

**Orta Doğu Teknik Üniversitesi / Middle East Technical University**

Bachelor of Science (B.S.), Mechanical Engineering
2013 - 2018

## Skills

MATLAB  •  Machine Learning  •  Python  •  Data Analysis  •  Data Structures  •  C (Programming Language)  •  Scientific Computing  •  Data Science