Hazan **Daglayan Sevim**

Mathematician | Data Scientist

Contact

- Born on 27/08/1988
- daglayanhazan@gmail.com
- +32 470 899 023
- Brussels/Belgium
- hazan-daglayan
- Hazan Daglayan
- hazandaglayan

Languages

- Turkish - Native language
- English - Full working proficiency
- German - Intermediate-B1

Computer Skills

Programming Languages

Python:	●●●●●
MATLAB:	●●●●●
C/C++:	●●●○○
JavaScript:	●●○○○
Bash:	●●●○○
Java:	●●●○○
HTML:	●●●○○
SQL:	●●●◐○

Operating Systems

Linux:	●●●●●
Windows:	●●●●●

Database Management Systems

Oracle	●●●◐○
MySQL	●●●◐○

Parallel Programming Libraries

OpenMP:	●●●○○
CUDA:	●●●○○
MPI:	●●●○○

Version Control System

Git:	●●●●◐
SVN:	●●●●◐

- Analyzed various data sets and performed numerical linear algebra and machine learning for a direct exoplanet detection project.
- Modelled this physical problem and implemented it using Python (NumPy, SciPy, Pandas, Matplotlib, OpenCV, Scikit-Learn, Keras, and TensorFlow libraries) and MATLAB.
- Processed the multispectral and hyperspectral images for detection to detect shadows in the remote sensing images.
- Developed excellent communication skills during my trainings and regular group meetings.

🎓 EDUCATION

2020-Ongoing — **PhD in Mathematical Engineering** 📍 Louvain-la-Neuve, Belgium
Université catholique de Louvain (UCLouvain)
Main topic: Low-rank Approximations for Direct Exoplanet Imaging
Key topics: Image-Signal Processing, Exoplanet Detection, Low-Rank Approximations, Sparse Matrices, Principal Component Analysis
Articles: 🔗 🔗 🔗 🔗

2011-2015 — **MSc in Information Systems** 📍 Ankara, Turkey
Middle East Technical University
Key topics: Image Processing, Machine Learning, Remote Sensing, Hyperspectral Imaging, Shadow Detection
Articles: 🔗 🔗 🔗 Thesis: 🔗

2007-2011 — **BSc in Mathematics** 📍 Ankara, Turkey
Middle East Technical University
Key topics: Applied Mathematics, Numerical Analysis, Scientific Computing

💼 WORK EXPERIENCE

2020-Ongoing — **PhD fellowship** 📍 Louvain-la-Neuve, Belgium
ICTEAM of Université catholique de Louvain (UCLouvain)

- PhD Studies: Analyzing and modelling images to detect exoplanets using grayscale and hyperspectral images.
- Teaching tasks on Numerical Analysis and Scientific Computing courses.

2018 – 2020 — **Academic staff-Researcher** 📍 Karlsruhe, Germany
Steinbuch Centre for Computing (SCC) of Karlsruhe Institute of Technology (KIT)

- Researcher on Data Exploitation Methods group
  - Classification of manuscript images as syllogism and text using deep learning methods with Python TensorFlow library.
  - Creating a web-server which shows the results of the classification methods for uploaded images
- High Performance Computing System Administrator on Scientific Computing and Simulation Department
  - Participation in the expansion and operation of the integrated HPC infrastructure
  - Monitoring, maintenance and updating of HPC systems
  - Installing, updating and removing software packages in HPC systems
  - Building software from source and installing & deploying them
  - Participation in user support and training

💼 WORK EXPERIENCE - CONTINUED

2012-2018

Research and Teaching Assistant 📍 Ankara, Turkey
Computer Engineering Department at Atilim University
- Research Assistant on Natural Computing Interest Group

    – Solving engineering problems like UAV routing problems, cost optimization, etc. using Natural Computing techniques such as Genetic Algorithms, Ant Colony Optimization, etc. Articles: 🔗 🔗

- Teaching Assistant at the following courses:

    – Numerical Methods (MATLAB programming), Computer Programming, Object Oriented Programming (C++ Programming), Java Programming, Digital Image Processing (MATLAB programming), Database Design and Management (SQL programming), Operating Systems (Bash Scripting & C Programming), Discrete Computational Structures

✺ TRAININGS/CERTIFICATES

- Mastering Transformers: From Building Blocks to Real-World Applications using PyTorch, Head of Training and Education Department, IT4Innovations National Supercomputing Center, 2023, Online.

- Nonparametric Classification and Machine Learning - Introduction, Comparison and Applications, Namur Institute for Complex Systems, Université de Namur, 2023, Namur/Belgium

- Deep Statistical Learning, Graduate School in Statistics and Actuarial Sciences, UCLouvain, 2021, Louvain-La-Neuve/Belgium

- Scientific Communication Workshop, Ecole polytechnique de Louvain, UCLouvain, 2021, Louvain-La-Neuve/Belgium

- Docker Container Hands-On, GridKa School 2018 – Computing and Science Fair, 2018, Karlsruhe/Germany

- Collaborative Software Development, GridKa School 2018 – Computing and Science Fair, 2018, Karlsruhe/Germany

- Parallel Programming with OpenMP and MPI, GridKa School 2018 – Computing and Science Fair, 2018, Karlsruhe/Germany

- Introductory-Intermediate-Advanced bwHPC Course: HPC in Baden Wüttemberg, Karlsruhe Institute of Technology, 2018, Karlsruhe/Germany

🖥 CONFERENCES/PRESENTATIONS

- The Benelux Conference on Artificial Intelligence and the Belgian Dutch Conference on Machine Learning (BNAIC/BeNeLearn), Delft, The Netherlands, November 2023.

- European Symposium on Artificial Neural Networks, Computational Intelligence and Machine Learning (ESANN 2023), Bruges, Belgium, October 2023.

- IEEE International Conference on Image Processing, Applications and Systems (IPAS 2022), Genova, Italy, December 2022.

- Workshop on Low-Rank Models and Applications (LRMA 22), Mons, Belgium, September 2022.

- The Spirit of LYOT 2022, Leiden, the Netherlands, June 2022.

- The Colloquium on Exoplanets and Gravitational Waves, Brussels, Belgium, April 2022.

- The Fifth International Symposium on Engineering, Artificial Intelligence and Applications (ISEAIA 2017), Girne, Cyprus, November 2017.

👥 MEMBERSHIP OF RESEARCH GROUPS

2019

Data Exploitation Methods Research Group 🖥 📍 Karlsruhe, Germany
Steinbuch Centre for Computing (SCC)

2017-2018

Parallel Processing Laboratory 🖥 📍 Ankara, Turkey
METU Department of Computer Engineering

2015-2016

Natural Computing Interest Group 🖥 📍 Ankara, Turkey
Computer Engineering Department at Atilim University

2014-2015

METU Computer Vision and Remote Sensing Research Group 🖥 📍 Ankara, Turkey
METU Graduate School of Informatics