KAOUTHER MOUHEB

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Education

University of Girona, University of Burgundy, University of Cassino — European Union
M.Sc. Medical Imaging and Applications MaIA, **Grade: 29,52/30, Rank: 1/25** — 2021 - 2023
Erasmus Mundus Joint Master Degree. [Website]

Eskisehir Technical University — Eskisehir, Turkey
B.Sc. Computer Engineering, **GPA: 3.99/4, Valedictorian** [Website] — 2016 - 2021

National Mathematics High School Mohand Mokhbi — Algiers, Algeria
Baccalaureate in Mathematics, **Grade: 18.55/20, Valedictorian** — 2013 - 2016

Experience

ViCOROB Lab, University of Girona — Girona, Spain
Graduate Research Intern — Jun 2022 - Aug 2022
- Supervised by Robert Marti.
- Worked with a team on Breast Density Estimation using Federated Learning.

TUBITAK Software Technologies Research Institute — Ankara, Turkey
Candidate Researcher — Jan 2021 - Aug 2021
- Project: Expenses Management Systems of the Turkish Ministry of Treasury and Finance.
- Participated as a Full-Stack developer in designing a software system based on the micro-service architecture following the domain driven design paradigm.

ESTU Electrical and Electronics Engineering Department — Eskisehir, Turkey
Undergraduate Researcher — Sep 2020 - Jan 2021
- Supervised by Cihan Topal.
- Worked on developing an automatic system for face liveness detection during online meetings based on unisotropic diffusion and deep learning.

TUBITAK Software Technologies Research Institute — Ankara, Turkey
Software Development Intern — Jun 2020 - Aug 2020
- Developed an event management system for the institute with a Spring Boot based backend, a React-based web front-end and a PostgreSQL database.

Dypix — Boumerdes, Algeria
Web Development Intern — Jun 2019 - Aug 2019
- Developed a web-based interactive educational tool for children using Laravel, MySQL and Bootstrap.

Honors and Awards

Federated Learning Breast Density Challenge Winner By Nvidia-ACR-NCI at MICCAI (2022)

Datacare AI Santé Datathon Health AI Award by Santenov & partners (2022)

Erasmus Mundus Grant for MaIA joint master degree (23 awardees out of 600 applicants) (2021)

First Class Honors for graduating as valedictorian of the Engineering Faculty of ESTU (2021)

Best Graduation Project by Eskisehir Chamber of Commerce, 14th Graduation Projects Fair (2021)

Erasmus+ Scholarship, an exchange semester at Liepaja University (5 awardees/department) (2020)

High Honors Student for 8 semesters by the dean of ESTU Engineering Faculty (2017-2021)

YTB Turkiye Scholarships for undergraduate studies (5k awardees out of 100k applicants) (2016)

Presidential Honorable Mention for ranking fifth of Algeria in the national BAC exam (2016)

Publications

Mouheb, K., Yürekli A. , Yılmazel, B. **"TRODO: A public vehicle odometers dataset for computer vision."** Data in Brief 38 (2021): 107321.

Mouheb, K. , Yürekli, A. , Dervisbegovic, N. , Mohammed, R. A. , Yılmazel, B. **"EduFERA: A Real-Time Student Facial Emotion Recognition Approach"**. Avrupa Bilim ve Teknoloji Dergisi (2021): 690-695

Skills

Programming:	Python, Java, C++, MatLab, R, JavaScript, PHP.
AI & Computer Vision:	PyTorch, Sci-kit Learn, Pillow, OpenCV, Keras, Simple ITK.
Web & Mobile Development:	Spring Boot, Laravel, Flask, ReactJS, Bootstrap, Android, Flutter.
Database Management:	MySQL, SQLite, PostgreSQL, SQL.

Projects

Breast Density Estimation with Federated Learning
A Deep Learning framework for breast density estimation according to the Bi-RADS reporting system by applying deep ordinal regression following the federated learning scheme. The method won the FL Breast Density Challenge at MICCAI2022.

Skin Lesion Segmentation and Classification
We addressed the tasks of skin lesion segmentation and classification using two approaches, a classical pipeline using advanced image processing techniques and traditional machine learning, and a deep learning-based method.

Alzheimer's Patient Classification
A comparative study of different statistical learning approaches on 3 different tasks of Alzheimer's patient classification based on MRI and gene expression data. The best models were submitted for the Statistical Learning Challenge at Cassino University. Challenge Winner for the ADCT task.

Heart Axes Detection
Worked within a team during the third "Datacare AI Santé Datathon" on detecting the main axes of the heart from MRI images by combining deep learning-based segmentation and image processing techniques. Supervised by Sarah Leclerc and Alain Lalande.

SMS Spam Filter for Turkish
A Machine Learning Method for SMS spam detection for the Turkish Language.

Certificates

Deep Learning with Pytorch: GAN — Coursera (2022)

AI Programming with Python Nanodegree — Udacity (2019)

Android Basics Nanodegree by Google — Udacity (2018)

Languages

Arabic:	Native.
English:	Advanced, IELTS 8.0.
French:	Advanced.
Turkish:	Advanced, C1 TOMER Certificate.