Fouad Azar

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EDUCATION

FH AACHEN
MSc. in Biomedical Engineering
Aachen, Germany
Note: 1.7
GPA: 3.6

FH AACHEN
BEng. in Biomedical Engineering
Aachen, Germany
Note: 2.3
GPA: 3.2

COURSEWORK

SPECIALIZATIONS
Multivariate Analysis
Machine Learning
Deep Neural Networks
Self-Organizing Maps
Finite Element Method
Parallel Factor Analysis
Multi-omics Databases
NGS Technology
Urinalysis & Haematology
Spectroscopy (NMR/Optical)

SKILLS

PROGRAMMING
Python• R• C & C++• MATLAB•
PostGreSQL• HTML, CSS & Javascript•
Bash• Docker

FRAMEWORKS
TensorFlow• PyTorch• Django• MNE•
AFNI• MPI4py• Bioconductor

EDP
LaTeX• LibreOffice • MS Office

CAD
Inventor• Amira• Blender•FreeCAD

SOFT SKILLS
Project Management
Project Financing
Risk Management
Concurrent Engineering
International Communication
Scientific/Technical Writing

LANGUAGES
English (native) • Arabic (native) •
German (C2) • Mandarin (HSK4)

EXPERIENCE

RESEARCH ENGINEER | New York University
February 2025 - Present | Abu Dhabi, UAE
- Developing, configuring and maintaining a LIMS system customized to the needs of the PHRC research projects including sample and associated data inventories, development for rapid, efficient and automated data tracking and retrieval workflows.

BIOINFORMATICIAN | Prepaire
November 2022 - February 2025 | Abu Dhabi, UAE

- Curating multi-omic databases by systematically annotating, organizing, and validating personalized biological data sets, including genomic, transcriptomic, proteomic, and metabolomic information.

BIOMEDICAL ENGINEER | Freelance
April 2020 - October 2022 | Abu Dhabi, UAE
- Most notable: FMRI & EEG convolution, Biomechanical calculation and simulations of bone tissue and Pitch analysis in speech.

PROJECT COORDINATOR | Institute of Bioengineering
Jan 2019 – December 2020 | Jülich, DE
- Led and taught a team in Multi-Modal Spectroscopy Machine Learning Applications in Urinalysis to create a detailed catalogue of urine constituents.

PROFESSOR'S ASSISTANT | FH Aachen
June 2015 – December 2020 | Jülich, DE
- Preparing and lecturing in several undergrad and postgrad subjects, including: Calculus I/II, Information Processing, German and Biomolecular Physics.

RESEARCH

FLURINE: MULTI-MODAL SPECTROSCOPIC ANALYSIS OF ARTIFICIAL AND HUMAN URINE | Lead Researcher
Jan 2019 – Present | Jülich, DE
Worked with **Prof Ilya Digel** and **Prof David Jameson** to create **Flurine**, This project aimed to establish a production method of artificial urine as a reference value to human urine. Spectroscopic catalogue was collected for urinary components and analyzed using machine learning algorithms and multi-way analysis to create an effective diagnostic tool.

GERMAN AEROSPACE CENTER (DLR) | Researcher
Jan 2018 – Present | Jülich, DE
Worked under the managment of **Dr Oliver Funk** and a consortium of multiple universities to conceptualize an ice-drill unit, carrying two payloads – an automated underwater vehicle and Astrobiolab, for an antarctic expedition in search of biosignatures.

AWARDS

2014	Academic Excellence	2 Scholarships from DAAD project funding
2019	Project Flurine	K1 Research Grant