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Doctor in Medical Image Analysis

Academic Background

- **Doctorate Degree** in Biophysics, Medical Physics and Radiophysics, intitled "*development of a neuro-imagery approach for clinic assessment of a post-stroke motor recovery strategy*" with the very honorable mention Tunis El MANAR University, **July 15, 2022.**
- **Research Master Degree** in Biophysics, Medical Physics and Radiophysics. Tunis El MANAR University, **2016**.
- **Professional Master Degree** in Physics & Acoustics and CND, University of Sfax-Tunisia, **2014**.
- **Applied License Degree** in physics and instrumentation, University of Sfax-Tunisia, **2012.**
- **Baccalaureate Degree**, Specialty: Experimental Sciences, Kasserine-Tunisia, **2009.**

Professional Experience

MRI Clinical Applications Specialist at STIET-PHILIPS Tunisia, 2023-

Medical Image analysis task at the research laboratory of biophysics and medical technologies of Tunis, 2022

R&D internship (3 months), trainee at Rabta Institute of Neurology, 2019

Subject: application of DTI Protocol for Stroke Diagnostic.

Internship (1 months) at the CNRS (National Center for Scientific Research) Lyon France, 2018
- Acquisition of MRI data.
- Pre-processing and post-processing of the data explored using FSL and MRtrix3.
- Functional data analysis.

R&D internship (3 months), trainee at Rabta Institute of Neurology 2017

Subject: Functional imaging with BOLD contrast.
          Data mining and analysis.

R&D internship (6 months), CNRP (National Center for Radioprotection), 2016
- **Mission:** development of a dose assessment algorithm for personal dosimetry
- **Results:** Validation of the algorithm for individual dosimetric cards for the operational quantity Hp (10).

Internship engineer (4 months), Company "TIC Sfax-Tunisia, 2014

- **Mission:** Evaluation of non-destructive testing methods based on echography& TOFD (Time of Fly Diffraction)
- **Results:** estimation of density and crack attenuation using methods based on multiple reflections and signal amplitudes.

Skills

Technical and managerial:

Medical imaging, quality control, Neuroimaging methods, functional MRI, diffusion tensor imaging

Transmitting and sharing information, coaching a group of students, organizing and participating in meetings, teamwork, sense of responsibility and initiative.

Computer skills:

- Office software: Geant4, PyCharm, Ubuntu, Octave, Anaconda, Open office and Latex.
- Medical Image Software processing: MRtrix3, CONN toolbox, SPM, FSL, Trackvis, MATLAB,
- Software: Eagle and SolidWorks.

Linguistics F r e n c h: bilingual   English: professional   Arabic: native speaker

BOARD MEMBERSHIP AND ASSOCIATED ACTIVITIES

- **Executive Committee of African Chapter of the ISMRM, 2023-**

- **Regional Coordinator Northern Africa of African Chapter of the ISMRM, 2023-**

- **Bill & Melinda Gates Foundation African delegate, ISMRM annual meeting, Toronto 3-8 June 2023**

- **Associate Member with Both Electronic JMRI & MRM Journals 2023**

Other experiments

- **2023 ISMRM & ISMRT Annual Meeting & Exhibition (06/03/2023 thru 06/08/2023) Metro Toronto Convention Centre Toronto, ON Canada**
- **ISMRM Diffusion Study Group Virtual Meeting (21:00 UTC) (04/19/2023 thru 04/19/2023) Virtual Event**
- **ISMRM Cardiac MR Study Group Virtual Meeting (16:00 UTC) (02/14/2023 thru 02/14/2023) Virtual Event**
- **ISMRM Quantitative MR Study Group Virtual Meeting (15:00 UTC) (03/31/2023 thru 03/31/2023) Virtual Event**
- **ISMRT Virtual Meeting on What Nobody Told You About Perfusion MRI but You Need to Know (16:00 UTC) (02/08/2023 thru 02/08/2023) Virtual Event**
- **Annual Meeting ISMRM-ESMRMB 2022 and the ISMRT 31st Annual Meeting (05/07/2022 thru 05/12/2022) London, United Kingdom**

Areas of interest

- **Membership in the European Society for Magnetic Resonance in Medicine and Biology.**
- **Active member in the Tunisian Association of Radiation protection.**
- **Sports: Football, Table Tennis, cycling, running and hiking.**
- **Reading: (Novels, news, current events...)**

Higher Education

- **Dive into "Imaging Morphology, Function and Perfusion", Delve into "Flow, Mapping, & Vessel Imaging", the Scan With Me (SWiM) Cardiac MRI Training 2023**

- **Teaching as a temporary worker at the Higher Institute of Medical Technologies of Tunis (Practical work in Medical Image analysis) 2022**

- **Teaching as a temporary worker at the Higher Institute of Medical Technologies of Tunis (Practical work in Biophysics) 2021**

List of publications

- Hanene Sahli, Amine Ben Slama, **Abderrazek Zeraii**, Salam Labidi, Mounir Sayadi "ResNet-SVM: Fusion based glioblastoma tumor segmentation and classification" Journal of X-Ray Science and Technology. 2022

- **ZERAII, Abderrazek**, SLAMA, Amine Ben, RMILI, Lazhar, et al. Relevant Biophysical Parameters Discrimination along Corticospinal Tract in Patients with Stroke Using Convolutional Neural Networks. In: Journal of Biomimetics, Biomaterials and Biomedical Engineering. Trans Tech Publications Ltd, 2021. p. 95-103.

- **ZERAII, ABDERRAZEK**, SLAMA, AMINE BEN, BARBARIA, SABRI, et al. MULTIMODAL PIPELINE FOR QUANTITATIVE METRICS ESTIMATION OF BRAIN TISSUE MICROSTRUCTURE USING DMRI DATA. Journal of Theoretical and Applied Information Technology, 2021, vol. 99, no 1.

- **ZERAII, Abderrazek**, ALAYA, Ines Ben, MARS, Mokhtar, et al. Optimal Parameters of Diffusion MRI measuring Corticospinal Tract Integrity in healthy subjects. In: 2020 5th International Conference on Advanced Technologies for Signal and Image Processing (ATSIP). IEEE, 2020. p. 1-5.

- AMINE BEN SLAMA, HANENE SAHLI, **ABDERRAZEK ZERAII**, HEDITRABELSI, LEILA BEN FARHAT, SALAM LABIDI, AND MOUNIR SAYADI. Deep Neural Network for Covid-19 Pandemic Recognition Using CT Data. JOURNAL OF INFORMATION SCIENCE AND ENGINEERING, 2021, vol.36

- BEN SLAMA, Amine, MOUELHI, Aymen, SAHLI, Hanene, **ABDERRAZEK ZERAII**, et al. A deep convolutional neural network for automated vestibular disorder classification using VNG analysis. Computer Methods in Biomechanics and Biomedical Engineering: Imaging & Visualization, 2020, vol. 8, no 3, p. 334-342.