

Abderrazek Zeraii

PhD

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Education

- 2017– 2022 **Ph.D. Degree in Biophysics, Medical Physics and Radiophysics**
Higher Institute of Medical Technologies of Tunis & Tunis El Manar University, Tunisia.
- 2014 – 2016 **Research Master Degree in Biophysics, Medical Physics and Radiophysics.**
Higher Institute of Medical Technologies of Tunis & Tunis El Manar University, Tunisia.
- 2012 – 2014 **Professional Master Degree in Physics & Acoustics and Non-Destructive Testing.**
Faculty of Science of Sfax, Tunisia.
- 2009 – 2012 **Applied License Degree in Physics and Instrumentation.**
Faculty of Science of Sfax, Tunisia.

Professional Experience

- Nov 2022 - Present **MRI Clinical Applications Specialist**
Stiet Philips, Tunis, Tunisia
- Provide training to healthcare professionals on the use of MRI equipment.
 - Help optimize MRI protocols and techniques for different clinical applications.
 - Build and maintain relationships with healthcare providers and institutions.
 - Highlight the features and benefits of the MRI systems.
- Nov 2018 **Visiting Scholar**
Marc Jeannerod Institute of Cognitive Sciences (ISC-MJ) - UMR 5229, Lyon, France
- Pre-processing and post-processing of the data explored using FSL and MRtrix3.
 - Highlight the state of Art of the Diffusion MRI.
- Sep 2017 - Jul 2022 **Ph.D. Candidate in Biophysics, Medical Physics and Radiophysics**
Higher Institute of Medical Technologies of Tunis
- Development of a neuroimaging approach for clinic assessment of motor recovery after a stroke damage.
 - Acquisition of MRI data and the application of diffusion MRI Protocol for Stroke Diagnostic and it's Evolution during two time point.
- Jan 2016 - July 2016 **Research Intern - Master's Research Degree**
CNRP (National Center for Radioprotection), Tunisia
- development of a dose assessment algorithm for personal dosimetry.
 - Validation of the algorithm for individual dosimetric cards for the operational quantity Hp (10).
- Jan 2014 - Apr 2014 **Research Intern - Master's Professional Degree**
Technique of Inspecting and Control - Sfax, Tunisia.
- Evaluation of non-destructive testing methods based on Time of Fly Diffraction.
 - Estimation of density and crack attenuation using methods based on multiple reflections and signal amplitudes.

Qualifications

Domain MRI, Stroke, MRI acquisition, MRI physics Neuroscience, Neuroimaging, Medical Image Analysis, Brain, Image Processing, Statistical Analysis, Machine Learning, Deep Learning, Multiple Sclerosis, Alzheimer's Disease.

Computer Skills Python (advanced), Matlab (intermediate), R and C++ (beginner)
Python libraries: Numpy, Scikit-learn, Scikit-image, Pandas, SciPy, Nibabel, Pydicom, Seaborn, Matplotlib, Keras, TensorFlow, PyTorch.
Working on Linux (preferred) and Windows environments.

Medical Softwares FSL, FreeSurfer, ANTs, MRtrix, SPM toolbox.

Environment Preparing reports, presentations and articles in English and French: Latex and MicrosoftOffice.
Team working experience with research scientists, neurologist doctors, and MRI physicists.

Certification AI in Healthcare from DeepLearning.AI "Coursera"
Neuroscience and Neuroimaging from Coursera
AI for Medicine from Coursera
Fundamentals of Machine Learning for Healthcare from DeepLearning.AI "Coursera"

Link to Profiles Google Scholar, LinkedIn, ResearchGate

Board Membership and Associated Activities

May 2024 Bill & Melinda Gates Foundation African delegate, ISMRM annual meeting.Singapore.
2023-Present Executive Committee of African Chapter of the ISMRM.
Jun 2023 Bill & Melinda Gates Foundation African delegate, ISMRM annual meeting.Toronto, Canada
2023-Present Regional Coordinator Northern Africa of African Chapter of the ISMRM.

Languages

Arabic Mother tongue
French Bilingual
English Professional working proficiency

Published works

Abdul Nashirudeen Mumuni, Katerina Eyre, Cristian Montalba, Aduluwa Harrison, Surendra Maharjan, Francis Botwe, Marina Fernandez Garcia, **Abderrazek Zeraii**, Matthias G Friedrich, Fatade Abiodun, Ntobeko AB Ntusi, Tchoyoson Lim, Ria Garg, Muhammad Umair, Hameed Naniwolo, Sola Adeleke, Chinedum Anosike, Farouk Dako, Udunna C Anazodo . "**Scan With Me (SWiM): A train-the-trainer program to upskill MRI personnel in low-and middle-income countries.**". *Journal of the American College of Radiology, Elsevier, 2024*

Amine Ben Slama, Aymen Mouelhi, Hanene Sahli, **Abderrazek Zeraii**, Jihene Marrakchi, Hedi Trabelsi. "**A deep convolutional neural network for automated vestibular disorder classification using VNG analysis**". *Computer Methods in Biomechanics and Biomedical Engineering: Imaging & Visualization, 2020.*

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, 2023.*

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, 2023.*

Amine Ben Slama, Hanene Sahli, **Abderrazek Zeraii**, Hedi Trabelsi, Leila Ben Farhat, Salam Labidi, Mounir Sayadi . " **Deep Neural Network for Covid-19 Pandemic Recognition Using CT Data.**" . *J. Inf. Sci. Eng*, 2021.

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*, 2023.

Abderrazek Zeraii, Amine Ben Slama, Lazhar Rmili, Cyrine Drissi, Mokhtar Mars, Tarek Kraiem . " **Relevant Biophysical Parameters Discrimination along Corticospinal Tract in Patients with Stroke Using Convolutional Neural Networks**" . *Journal of Biomimetics, Biomaterials and Biomedical Engineering* , 2021.