SAEED ZAHRAN

PhD in Biomedical Engineering

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EXPERIENCE

Postdoctoral fellow

Heinrich-Heine-Universität Düsseldorf: HHU

June 2024 - Ongoing Düsseldorf, Germany

- I investigate how the body's motor activities shape perception using advanced methods such as EEG, motion tracking (eye tracking, hand tracking), and virtual reality devices.

Data and AI engineer

Capgemini

April 2023 - April 2024 Paris, France

- Designed and implemented NLP techniques for encoding medical symptom descriptions from electronic health records (EHRs) in French using binary encoding for symptom presence.
- Clinical recording and analysis using EEG technology to classify vigilance levels during various tasks.
- EEG-based brain-computer interface: clinical application, classification with deep artificial networks (Environment: Python)

Research engineer

Paris Brain Institute: ICM

April 2022 - Ongoing Paris, France

- Planning, developing, and maintaining MEG-EEG data processing Apps into brainlife.io;
- EEG-based brain-computer interface: clinical application, classification with deep artificial networks (Environment: Python)

Postdoctoral fellow

University of Picardy Jules Verne: UPJV

April 2020 - March 2022 Amiens, France

- Functional brain imaging with optically-pumped-magnetometers; (Environment: Python, Matlab)

Postdoctoral fellow

INSERM

March 2019 - February 2020 Rennes, France

- Computational modeling of EEG for consciousness studies; (Environment: Python, Matlab, C)

PhD in Computer Science and Bioengineering

Sorbonne University - University of Technology of Compiègne

2015 - 2019 Compiegne, France

- Electrohysterogram imaging for monitoring uterus contraction; (Environment: Python, Matlab, C++)

EDUCATION

Doctor of Philosophy

Sorbonne University - University of Technology of Compiègne

2015 - 2019

Thesis title: Source localization and connectivity study of uterine activity for prediction of premature labor;

Master 2 in Medical Imaging & Medical Physics

Lebanese University

September 2013 - October 2014

Thesis title: Uncertainties of invivo dosimetry using semiconductors;

B.Eng. in Biomedical Engineering

IUL, School of Engineering, Lebanon

September 2009 - July 2013

STRENGTHS

- Programming

Python C/C++ MATLAB C# Visual Basic

- Versioning management

Git/Github

- Environments

Pycharm Microsoft Visual Studio Anaconda Jupyter Notebook

- Operating system

Linux Windows

- Data processing

Image processing Signal processing Modeling Machine learning SQL

Biomedical engineer

CAMECO

April 2014 - April 2015 Beirut, Lebanon

- Installation, maintenance and repair of HITACHI medical imaging;

Biomedical engineer

QMED

September 2013 - April 2014 Beirut, Lebanon

- Sales and marketing, demonstrations, service and maintenance for FOTONA medical laser systems;

Medical physics internship

Middle East Institute of Health

February 2014 - October 2014 Bsalim, Lebanon

- Planning of radiotherapy treatments for cancer patients, quality control tests, in vivo dosimetry to verify the dose administered to patients;

AWARDS

Top 7 inventors in the Stars Of Science international competition

Stars of Science

February 2023 – April 2023 Doha, Qatar

- I was selected by qatar science and technology park (QSTP) and Qatar Foundation (QF) as one of the seven candidates to compete in the 15th Season of Stars Of Science in Doha-Qatar. I have developed a new wearable alerting epilepsy seizure;
- Stars of Science | Season 15

First Class Prize

THE "BRAIN TO MARKET" SUMMER SCHOOL

September 2022 Paris, France

- I have participated in "Brain to Market" Summer School which is an intensive 5-day training program to learn through practice the key skills of health entrepreneurship. Offered by the Open Brain School, the Paris Brain Institute's training organization;
- Eight projects developed during the week were presented to a jury of scientific and business experts Winning project

PUBLICATIONS

- **Zahran, Saeed**, et al. "Performance Analysis of Optically Pumped 4He Magnetometers vs. Conventional SQUIDs: From Adult to Infant Head Models." Sensors 22.8 (2022): 3093.
- **Zahran, Saeed**, et al. "Performance of source imaging techniques of spatially extended generators of uterine activity." Informatics in Medicine Unlocked 16 (2019): 100167.
- **Zahran, Saeed**, et al. "Source localization of uterine activity using maximum entropy on the mean approach." 2018 IEEE 4th Middle East Conference on Biomedical Engineering (MECBME). IEEE, 2018.

REFERENCES

Fabrice Wallois
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- **Zahran, Saeed**, et al. "Separation and localization of EHG sources using tensor models." 2017 Fourth International Conference on Advances in Biomedical Engineering (ICABME). IEEE, 2017.
- Nader, N., **Zahran, S**., Marque, C., Hassan, M., Yochum, M., Falou, W., Khalil, M. (2017, October). Graph analysis of uterine networks using EHG source connectivity. In 2017 Fourth International Conference on Advances in Biomedical Engineering (ICABME) (pp. 1-4). IEEE.
- **Zahran, Saeed**, et al. "Variation-based sparse source imaging in localizing uterine activity." 2017 39th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC). IEEE, 2017.
- Al Kattar, Zeina, Hanna El Balaa, and **Saeed Zahran**. "Uncertainties of in vivo dosimetry using semiconductors." J Life Sci 9 (2015): 120-126.