

Haneen Alsuradi

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📄 [HaneenSu.github.io](https://github.com/HaneenSu)

Research Interests

Brain computer interface, Machine learning for neurohaptics, EEG data processing and analysis, Time-series classification.

Education

- 2019–2022 **PhD Degree in Electrical Engineering, New York University, USA** .
GPA: 3.956/4.0
○ Supervisor: [Dr. Mohamad Eid](#)
○ Affiliation: [AIMLab](#), [NYU Tandon](#)
○ Focus: Signal Processing, Neurohaptics, Machine Learning
○ Thesis: A Machine-Learning-Based Neurocognitive Framework to Evaluate the Experience of Haptic Delay
- 2015–2016 **MSc Degree in Microsystems Engineering, Masdar Institute (now Khalifa University), UAE** .
GPA: 4.0/4.0
○ Supervisor: [Dr. Jerald Yoo](#)
○ Focus: Circuit design, Printed electronics
○ Thesis: Design, Modeling and Characterization of Printed Passive Elements on Medical Hydrocolloids
- 2009–2014 **BSc Degree in Electrical and Electronics Engineering, University of Sharjah, UAE** .
GPA: 3.93/4.0 (Summa cum laude)
○ Final Year Project (FYP) Supervisor: [Prof. Maamar Bettayeb](#)
○ Focus: Signal Processing, Electronics, Minor in Applied Physics
○ FYP title: Brain Computer Interface (BCI): Speller Application

Work Experience

- Sept.–Dec. (2018) **Research Associate, Khalifa University, Abu Dhabi, UAE.**
○ Supervisor: [Prof. Baker Mohammad](#)
○ Analog to Digital Converter design and simulation on 65 nm technology.
- July 2017–March 2018 **Digital Layout Engineer, Golden Electronics, Amman, Jordan.**
○ CMOS Digital Standard cells layout and schematic design.
○ Layout design in 28nm, 16nm, 14nm and 8nm technology nodes (TSMC and GF).
○ Layout optimization (i.e. area reduction and speed boosting).
- Dec. 2014–May 2017 **Research Assistant, Masdar Institute, Abu Dhabi, UAE.**
○ Digital Circuit Design, Simulation and Layout on Cadence.
○ Wearable Electronics simulation, fabrication and verification.
○ Scanning Electron Microscopy (SEM) imaging.

- June **Research Intern, CERN, Geneva, Switzerland.**
- 2012–August
 - Joined the [CRIS experiment](#) team
- 2012
 - Used SRIM to simulate the Francium alpha decay detection.
 - Prepared the setup for the Silicone detectors test.
- May **Research and Laboratory Assistance, University of Sharjah, UAE.**
- 2010–July
 - Worked at the UAE National X-Ray fluorescence laboratory.
- 2011
 - Performed specimen preparation and analysis of environmental archeological samples.

Supervision

- Undergraduate Research **Mahmoud Hafiz and Natty Metekie, Social Robotics for ADHD [Jan. 2023-present].**
- Undergraduate Research **Mbebo Nonna, Helin Mazi, and Ali Fakhry, Human Augmentation in VR [Jan. 2023-present].**
- Capstone Project **Hadi Assadi and Praggya Jeyakuma, Detection of haptic delay using EEG data [2020-2021].**
- Internship **Sara Ba'ara, Hadi Assadi and Allan Michelin, FaceGuard: A Wearable System to Avoid Face Touching [2020].**

Teaching

Teaching positions

- Fall 2021 **New York University Abu Dhabi.**
 - Teaching assistant for "ENGR-UH 1000: Computer Programming for Engineers"
 - Delivered the lab sessions and mentored students for term projects.
- Spring 2016 **Masdar Institute.**
 - Teaching assistant for "MIC-610: Analysis and Design of Digital Integrated Circuits"

Training

- Fall 2021 **New York University Abu Dhabi.**
 - Teaching Assistant Training Series [\[certificate\]](#)
 - Delivered by the NYUAD graduate and postdoctoral programs office.

Honors and Awards

- Fall 2022 **GradSlam (three minutes thesis).**
Finalist at NYUAD 2022 [\[video\]](#)
- Spring 2021 **Global PhD Travel Award.**
Travel award towards attending WorldHaptics 2021
- 2019–2022 **Global PhD Student Fellowships in Engineering.**
Highly competitive and generous fellowship by NYUAD
- 2009–2014 **Honors list during BSc.**
Summa cum laude.

Skills

- Programming Language MATLAB, C++, Python, HTML, Verilog.

Frameworks Keras, TensorFlow, PyTorch
Packages Pandas, NumPy, scikit-learn
Operating System Windows, Linux
Languages Arabic (mother tongue), English (fluent - TOEFL iBT score 108)

Invited Talks

Fall 2021/2022 Invited lecture on "Introduction to Machine Learning" for Computer Programming for Engineers course at NYUAD

Fall 2022 Invited seminar on "Using machine learning and EEG data to evaluate haptic experience" by the Early Engineers Research forum at NYUAD. [\[link\]](#)

Professional and Community Activities

Reviewing

Conferences Reviewer for Transactions on Haptics as part of the World Haptics 2023.

Organizing and Leadership

2023 Vice chair of the Postdoctoral Council Steering Committee (PCSC)

Publications

Journals

- 2023 H. Alsuradi, and M. Eid, "EEG-based Machine Learning Models to Evaluate Haptic Delay: Should We Label Data Based on Self-Reporting or Physical Stimulation?", Transactions on Haptics [Minor Revision]
- 2022 H. Alsuradi, W. Park, and M. Eid, "Assessment of EEG-based Functional Connectivity in Response to Haptic Delay", Frontiers in Neuroscience
- 2022 H. Alsuradi, and M. Eid, "An ensemble deep learning approach to evaluate haptic delay from a single trial EEG data", Frontiers in Robotics and AI
- 2022 H. Alsuradi, W. Park, and M. Eid, "Midfrontal Theta Oscillation Encodes the value of Haptic Delay", Scientific Reports
- 2021 H. Alsuradi, W. Park, and M. Eid, "Midfrontal Theta Oscillation Encodes Haptic Delay", Scientific Reports
- 2021 A. Michelin, G. Korres, S. Ba'ara, H. Assadi, H. Alsuradi, R. Sayegh, A. Argyros, M. Eid, "FaceGuard: A Wearable System To Avoid Face Touching", Frontiers in Robotics and AI
- 2020 H. Alsuradi, W. Park, and M. Eid, "EEG-based Neurohaptic Research: A Literature Review" IEEE Access
- 2019 H. Alsuradi and Jerald Yoo, "Screen Printed Passives and Interconnects on Medical Hydrocolloid Dressing for Wearable Sensors," Scientific Reports
- 2017 W Saadeh, MAB Altaf, H Alsuradi, J Yoo, "A 1.1-mW ground effect-resilient body-coupled communication transceiver with pseudo OFDM for head and body area network". IEEE Journal of Solid-State Circuits

- 2013 T.E. Cocolios, H.H. Alsuradi, et al., "The collinear resonance ionization spectroscopy (CRIS) experimental setup at CERN-ISOLDE." Nuclear Instruments and Methods in Physics Research Section B: Beam Interactions with Materials and Atoms

Conferences

- 2021 H. Alsuradi and M. Eid, "Trial-based Classification of Haptic Tasks Based on EEG Data", 2021 IEEE World Haptics Conference (WHC)
- 2021 V. Babushkin, W. Park, M. Jamil, H. Alsuradi, and M. Eid, "EEG-based Classification of the Intensity of Emotional Responses", 10th International IEEE/EMBS Conference on Neural Engineering (NER)
- 2020 H. Alsuradi, W. Park, and M. Eid, "Explainable Classification of EEG Data for an Active Touch Task using Shapely Values", International Conference on Human-Computer Interaction
- 2020 H. Alsuradi, C. Pawar, W. Park, and M. Eid, "Detection of Tactile Feedback on Touch-screen Devices using EEG Data," 2020 IEEE Haptics Symposium (HAPTICS)
- 2017 H. Alsuradi and Jerald Yoo, "Design and Modeling of an Inductive Coupling Wireless Power Transfer Using Printed Spirals on Medical Hydrocolloid Dressings," IEEE International Symposium on Circuits and Systems (ISCAS)
- 2016 W. Saadeh, H. Alsuradi, M. Altaf and J. Yoo, " A 1.1 mW hybrid OFDM ground effect-resilient body coupled communication transceiver for head and body area network " IEEE Asian Solid-State Circuits Conference (A-SSCC) (Presenting Author)