

Hussein El Amouri

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Professional Experience

- 2023–present **Assistant Research, Icube Laboratory, University of Strasbourg, France**
Examining various approaches to advance incremental constrained clustering within the time series and remote sensing domain, employing active learning methodologies. Leveraging the contributions derived from the PhD contribution to inform and optimize the active process.
- 2020–2023 **Ph.D. Student, Icube Laboratory, University of Strasbourg, France**
Learning interpretable-explainable time series transformation that integrates expert knowledge to facilitate clustering, constrained clustering, and interactive clustering processes. This approach leverages deep learning techniques, including contrastive learning and Siamese networks. Different strategies are provided to explain the transformation and clustering results based on shapelets.
- 2020–present **Lecturer, University of Strasbourg, France**
"Culture pour l'informatique," providing essential technical skills to navigate the Linux system, covering simple commands to complex scripts.
"Anglais pour l'informatique" is tailored for third-year license students, offering insights into the research field in computer science. The course emphasizes the handling of English-written papers and focuses on understanding state-of-the-art contributions.
Coaching for a hackathon on AI at Strasbourg University.
- 2020 **Speech synthesis using AI methods Internship, GIPSA-LAB Grenoble, France**
Introducing a methodology to benchmark neural vocoders beyond their conventional training conditions, where we control the ranges of seen/unseen training data. We used four types of vocoder (autoregressive, source filter, flows, GAN).
- 2019 **Telecommunication Engineering Internship, Ogero Center, Beirut, Lebanon**
Hands-on and introduction to Lebanese Telecommunication system, Architecture, and Protocols

Education

- 2020–2023 **Ph.D. candidate in Computer Science, Icube Laboratory, University of Strasbourg.**
- 2019–2020 **Master in Singal and Image processing (Dual Degree), Grenoble INP-Phelma, Grenoble, France.**
- 2015–2020 **Electrical and Telecommunication Engineering, Lebanese University Faculty , Beirut, Lebanon.**

Published Articles

- 2023 **Constrained DTW preserving shapelets for explainable time-series clustering.**
Pattern Recognition journal, **Impact-Factor:8**, DOI: [10.1016/j.patcog.2023.109804](https://doi.org/10.1016/j.patcog.2023.109804), [PDF](#)
- 2022 **Constrained DTW Preserving Shapelets**
ECML conference, **Core-Ranking:A**, DOI: [10.1007/978-3-031-26387-3_2](https://doi.org/10.1007/978-3-031-26387-3_2), [PDF](#)
- 2020 **Evaluating the Extrapolation Capabilities of Neural Vocoders to Extreme Pitch Values**
Interspeech conference, **Core-Ranking:A**, DOI: [10.21437/Interspeech.2021-1547](https://doi.org/10.21437/Interspeech.2021-1547), [PDF](#)

Skills (100+ Hours)

Programming: *Python | Bash | C/C++ | Matlab | MySQL | Assembly*

Libraries: *Pytorch | TensorFlow | Numpy | Pandas | Scikit – Learn | Matplotlib*

Technologies: *Git | Slurm | Docker | Networking utils | Cisco networking certified (CCNA 1-4)*

Workshops: *Scientific communication | Research integrity | Generative AI*

Languages: *English (Fluent) | Arabic (Native) | French (Intermediate)*

Keywords: Active; Incremental; contrastive Learning, Remote sensing (time series and imaging), Clustering,

References available upon request