Yassine OUZAR

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Education

2019-2023	**Phd in Automatic, Computer Science, Signal/Image processing**
	LCOMS Lab, University of Lorraine, Metz, France
2018-2019	**Master in Embedded Systems and Data science**
	Paris Saclay University, Orsay, France
2017-2018	**Master in Embedded Systems**
	Abdelhamid Ibn Badis University, Mostaganem, Algeria
2015-2016	**Bachelor in Electronic Engineering**
	Abdelhamid Ibn Badis University, Mostaganem, Algeria

Skills

Technical: Data science and Machine learning (Numpy, Pandas, Matplotlib, SciPy, Sckit-Learn, Keras, Tensorflow)

Deep learning (Supervised/Unsupervised/Semi-supervised and Self-supervised Learning, CNN, RNN, GAN, AE, Transformer)

Computer vision - Signal/Image processing (Matlab, Python)

Physiological signals processing and Remote Photoplethysmography

Affective computing, Automatic, Robotic

Hardware and software design of embedded systems (Microcontroller, Arduino, Raspberry pi, FPGA)

Real time embedded systems and concurrent programming

Computer architecture (Motorola 6809/68000, MIPS, ARM) Analog and digital electronics

Software: Operating Systems: Windows, Linux

Programming language: Python, C/C++/C#, Matlab, VHDL, Bash, HTML/CSS, JavaScript

Professional Experience

2022-2023	**Attaché Temporary lecturer and researcher**
	LCOMS Lab, University of Lorraine, Metz, France

Teaching assistant :

University of Lorraine, Metz, France

- Machine learning (Python) (M1 E3A)
- Oriented Object Programming (C++) (M1 E3A)
- Web Development (HTML/CSS/JavaScript) (M1 E3A)
- Computer Network (M1 E3A)
- UNIX (M1 E3A)
- Internet of Things (M2 E3A)
- Graphical User Interface (C++/C#) (L3 E3A)
- Digital Electronics (L1 E3A)
- Algorithms and Programming (C) (L1 E3A)

Mentoring:

2021 - 2022	- Master's Internship: Multimodal emotion recognition: approach based on contactless technologies.
2022 - 2023	- Master's project – Data science: Python Toolbox for video-based pulse rate measurement using imaging photoplethysmography.
2022 - 2023	- Master's project – Data science: emotion recognition using eye tracking data.
2021 - 2022	- Master's project - Human machine systems engineering: non-contact heart rate variability measurement from facial video recordings.
2020 - 2021	- Master's project - Human machine systems engineering: non-contact pulse wave extraction based on deep learning.

| 2020 - 2021 | ▪ Master's project - Human machine systems engineering: non-contact pulse rate measurement by camera based on deep learning. |

Publications:

- **OUZAR, Yassine**, DJELDJLI, Djamaleddine, BOUSEFSAF, Frédéric, and MAAOUI, Choubeila. X-iPPGNet: A novel one stage deep learning architecture based on depthwise separable convolutions for video-based pulse rate estimation. *Computers in Biology and Medicine*.

- **OUZAR, Yassine**, Lagha, Lynda, BOUSEFSAF, Frédéric, and MAAOUI, Choubeila. Multimodal stress state detection from facial videos using physiological signals and facial features. In: *Proceedings of the IEEE/CVF International Conference on Pattern Recognition*.

- **OUZAR, Yassine**, BOUSEFSAF, Frédéric, DJELDJLI, Djamaleddine, and MAAOUI, Choubeila. Video-based multimodal spontaneous emotion recognition using facial expressions and physiological signals, In: *Proceedings of the IEEE/CVF Computer Vision and Pattern Recognition.*

- BOUSEFSAF, Frédéric, DESQUINS, Théo, DJELDJLI, Djamaleddine, **OUZAR, Yassine**, MAAOUI, Choubeila, and PRUSKI, Alain. Estimation of Blood Pressure Waveform from Facial Video Using a Deep U-Shaped Network and the Wavelet Representation of Imaging Photoplethysmographic Signals, *Biomedical Signal Processing and Control,* 2021.

- **OUZAR, Yassine**, DJELDJLI, Djamaleddine, BOUSEFSAF, Frédéric, and MAAOUI, Choubeila. LCOMS Lab's approach to the Vision for Vitals (V4V) Challenge. In: *Proceedings of the IEEE/CVF International Conference on Computer Vision*. 2021. p. 2750-2754.

- BOUSEFSAF, Frédéric, DJELDJLI, Djamaleddine, **OUZAR, Yassine**, MAAOUI, Choubeila, and PRUSKI, Alain. iPPG 2 cPPG: Reconstructing contact from imaging photoplethysmographic signals using U-Net architectures. *Computers in Biology and Medicine*, 2021, vol. 138, p. 104860.

- BOUSEFSAF, Frédéric, DJELDJLI, Djamaleddine, **OUZAR, Yassine**, MAAOUI, Choubeila, and PRUSKI, Alain.Transformée en ondelettes et IA pour la reconstruction d'un signal PPG en contact à partir de sa version sans contact. In GRETSI'22, XXVIIIème Colloque Francophone de Traitement du Signal et des Images, Nancy, Nov. 2022.

- BOUSEFSAF, Frédéric, DESQUINS, Théo, DJELDJLI, Djamaleddine, **OUZAR, Yassine**, MAAOUI, Choubeila, and PRUSKI, Alain. Estimation of blood pressure waveform from facial video using a deep U-shaped network and the wavelet representation of imaging photoplethysmographic signals, conférence Handicap 2022, 129–134, Paris, Juin 2022.

- **OUZAR, Yassine**, BOUSEFSAF, Frédéric, and MAAOUI, Choubeila. Mesure sans contact de la fréquence par caméra basée sur l'apprentissage profond. *Colloque Jeunes Chercheurs IFRATH,* 2021.

- **OUZAR, Yassine**, BOUSEFSAF, Frédéric, and MAAOUI, Choubeila. Reconnaissance multimodale des émotions spontanées par caméra basée sur les expressions faciales et les signaux physiologiques. In Journées de printemps de la SAGIP 2022, Bidart, May 2022.

- **OUZAR, Yassine**, BOUSEFSAF, Frédéric, and MAAOUI, Choubeila, and CHELGHOUM, Kamel. Système bimodal pour la reconnaissance des émotions basé sur l'apprentissage profond. In 27e Journées STP du GdR MACS, Nantes, Feb. 2020.