

Contact

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Main Skills

Machine Learning
Deep learning
Computer Vision
Motion Capture

Languages

English (Professional/Bilingual)
French (Professional/Bilingual)
Arabic (Native)

Main Publications

- Leveraging Pre-trained CNN Models for Skeleton-Based Action Recognition.
- 3D Skeleton-Based Action Recognition by Representing Motion Capture Sequences as 2D-RGB.
- Action recognition based on 2D skeletons extracted from RGB videos.
- An adaptive framework for the creation of exergames for intangible cultural heritage (ICH) education.
- A multimodal motion capture dataset of expertise in Taijiquan gestures.
- Motion Data and Machine Learning: Prototyping and Evaluation?
- Adaptation procedure for HMM-based sensor-dependent gesture recognition.
- People Groups Analysis for AR Applications.
- UMONS-TAICHI: A multimodal motion capture dataset of expertise in Taijiquan gestures.
- Deep Learning for Plant Diseases: Detection and Saliency Map Visualisation.

More:

staff.umons.ac.be/sohaib.laraba

Sohaib Laraba

Computer Vision/Deep Learning Researcher
Mons, Wallonia, Belgium

Summary

I currently hold a PhD at UMONS in the field of machine learning and deep learning applied basically to people detection, tracking and human action recognition. My work includes, among other, people detection, tracking and re-identification, human action recognition, face recognition, plant diseases detection, tumours detection, etc.
I also co-organize several activities around AI like meetups, where I propose and give some talks, workshops, the UMONS Hand On AI certificate for students and industries, where I gave lessons and supervised participants, in addition to the supervision of some students for their final year projects, etc.

Experience

UMONS - numediart Institute for creative technologies

Research Assistant
January 2014 - Present
Mons, Belgium

The numediart Institute organizes internationally-renowned scientific training and research activities in the area of cultural and creative industries.

I work(ed) on several research projects and led several research, technical and managerial tasks, for example:

- The European i-treasures project - "Capturing the Intangible Cultural Heritage and Learning the Rare Know-How of Living Human Treasures"
- The ParkAR project (funded by the Walloon region in Belgium) on developing augmented reality solutions for theme parks by analysing people interactions.
- DigiStorm: a portfolio of ERDF projects co-funded by the European Union and the Région wallonne. The objective of this portfolio is to develop relationships and collaborations between companies, R&D centres and higher education institutions.

GIPSA-LAB

Intern
March 2013 - July 2013
Grenoble, France

GIPSA-lab, Grenoble Images Speech Signal and Control, is a joint research unit of CNRS, Grenoble-Inp and University of Grenoble-Alpes. It conducts theoretical and applied research in signals and systems.

I have worked on the realization of a system that can segment and estimate locations of different objects in a 3D environment. Tasks included the collection of data using a 3D sensor, developing algorithms to process this data and parallelizing them to run on GPUs for faster interaction.

Education

Faculty of Engineering of Mons - UMONS

Doctor of Philosophy (PhD) - Engineering sciences
2014 - 2020
Mons, Belgium

Title: Deep Learning for Skeleton-Based Human Action Recognition

Summary: Conception, realization and validation of a human action recognition methodology from skeleton tracking data (low-cost sensors).
The PhD was defended in October 2020.

Grenoble INP Institute of Engineering
Master Degree - Signal, Image, Speech and Telecom
2012 - 2013
Grenoble, France

National Polytechnic School (ENP)
Bachelor of Engineering (B.E.) - Electronics
2007 - 2012
Algiers, Algeria

Main Technical Skills

Not limited to~

- ML/DL Frameworks: Tensorflow, Keras, Pytorch
- Programming languages: Python, C++, C# + Matlab, R
- Platforms: Ubuntu, Windows

(I adapt to new frameworks and programming languages easily)

More about me

Very easy-going, I like working with a team on challenging tasks. I adapt quickly to new environments having already worked on several projects with multidisciplinary and international teams. I also enjoy following all the news around AI and making Gits work.