Ahmed Rekik | Curriculum Vitae

📱 +216 95 475 167 • ✉ ahmed.rekik@crns.rnrt.tn • Age: 39 years

Assistant professor in Computer Science

Academic qualification

PhD, computer science   **2016**
Multimedia, InfoRmation systems and Advanced Comput ing Laboratory (MIRACL computer vision), Tunisia.
Thesis: Contribution to visual speech recognition using RGB-D data.
Supervisors: Pr. Walid Mahdi, Dr. Achraf Ben-Hamadou

Master's Degree, Computer Science   **2011**
Higher Institute of Computer and Multimedia of Sfax, Tunisia.
Thesis : 3D reconstruction of inner surfaces of bladder using active stereo-vision based endoscopy.
Supervisors: Pr. Walid Mahdi, Dr. Achraf Ben-Hamadou

Professional experience:

Assistant professor in Computer Science   **Since Jan. 2017**
Higher Institute of Applied Sciences and Technologies of Gafsa (ISSAT), Tunisia.
As an Assistant Professor of Computer Science, my primary duties involve instructing students in various subjects related to computer vision and artificial intelligence, as well as providing guidance and oversight to those pursuing master's degrees in these fields.
Keywords: Machine learning, Data mining, Pattern recognition, Python, *etc.*

Computer vision researcher   **Since Sep. 2017**
Digital Research Center of Sfax (CRNS), Tunisia.
I am part of the "SmartVision" research group working on different research projects related to visual perception and shape analysis, cameras, and deep learning techniques.
Keywords: 3D vision, deep learning, generative models, 3D semantic segmentation, 3D registration, Human face analysis, *etc.*

Post-Doc researcher in computer vision   **2016**
Digital Research Center of Sfax (CRNS), Tunisia.
ADiP : Automatic Detection of in-process pieces using robot control
Coordinator : Dr. Yousri Kessentini
Keywords: Object detection, 3D Pose estimation, Camera calibration, *etc.*

Notable research collaborations and partnerships

Serious Games for supporting dyslexic children.   **2022-2023**
I am the scientific coordinator of the project Serious Games for dyslexic children at the CRNS.

The objective of the project is to establish a mobile platform that utilizes artificial intelligence techniques to diagnose and provide support for children with dyslexia.

CRNS-Diota Joint Lab   **2017-2020**
I was a member of the CRNS-Diota Joint Laboratory created in collaboration between the CRNS and DiotaSoft (France).
Research topics: 3D computer vision for Industry 4.0. robotics, object detection, 3D pose estimation, transfer learning from synthetic to real data, *etc.*
Coordinator : Achraf Ben-Hamadou

"Read my lips" project   **2018**
I was a member of the project in collaboration between the CRNS and the Driving Assistance Research Center of Valeo (France).
The project aims to design an Intuitive Driver-Car-Interaction based on lip-reading techniques and using cockpit NIR camera.
Coordinator : Achraf Ben-Hamadou

PhD student co-advising

Samar Daou   **2019-2024**
Co-advising with Dr. Achraf Ben-Hamadou and Prof. Abdelaziz Kallel, Sfax University
Thesis: Lip-reading via deep shape analysis.
Thesis defense will be scheduled for 2025.

Teaching activities

Lecturer, Machine learning, data mining, Image processing, computer vision, *etc.*   **Since 2017**
Higher Institute of Applied Sciences and Technologies of Gafsa (ISSAT), Tunisia

Teaching Assistant, Programming and Algorithmics   **2012-2015**
Higher Institute of Computer and Multimedia of Sfax, Tunisia.

Computer skills

OS: Linux, Windows
Programming: C/C++, Python, CUDA, Matlab, Mathematica.
IDE: MS Visual, CCS Studio, PyCharm, Spyder.
Deep Learning: PyTorch, TensorFlow, Caffe.
Image & Vision: Eigen, Ceres, OpenCV, ITK, VTK, OpenGL, CGAL, PCL.
Engineering tools: CMake, SVN, Git, Doxygen, GoogleTest, Montis Bug Tracker, Jenkins.

Publications

Journal articles

▷ **A. Rekik**, A. Ben-Hamadou, and O. Smaoui. TSegLab: Multi-stage 3D dental scan segmentation and labeling. ***Computers in Biology and Medicine*, Q1**, 2025

▷ S. Daou, A. Ben-Hamadou, **A. Rekik** and A. Kallel. Cross-Attention Fusion of Visual and Geometric Features for Large-Vocabulary Arabic Lipreading. ***Technologies*, Q1**, 2024

▷ **A. Rekik**, A. Ben-Hamadou, and W. Mahdi. An adaptive approach for lip-reading using image and depth data. ***Springer Multimedia Tools and Applications*, Q1**, 75(14): 8609-8636, 2016

Conference papers

▷ S. Daou, A. Ben-Hamadou, **A. Rekik**, A. Kallel. Transfer Learning for Limited-Data Infra-Red Lipreading Model Training **International Conference on Computer Systems and Applications** AICCSA 2024, Tunisia, Octobre, 22-26, 2024.

▷ S. Daou, **A. Rekik**, A. Ben-Hamadou, A. Kallel. Near-infrared lipreading system for driver-car interaction. **The International Conference on Computer Vision Theory and Applications** VISAPP-2023, Portugal, February, 19-21, 2023.

▷ **A. Rekik**, A. Ben-Hamadou, W. Mahdi. Person identification based on lip-reading techniques. in **Advanced Concepts for Intelligent Vision Systems** ACIVS-2015, Catania-Italy, October, 26-29, 2015.

▷ **A. Rekik**, A. Ben-Hamadou, W. Mahdi. Human Machine Interaction via visual speech spotting. in **Advanced Concepts for Intelligent Vision Systems** ACIVS-2015, Catania-Italy, October, 26-29, 2015.

▷ **A. Rekik**, A. Ben-Hamadou, W. Mahdi. A New Visual Speech Recognition Approach For RGB-D Cameras. **International Conference on Image Analysis and Recognition** ICIAR-2014, Portugal, October, 22-24, 2014.

▷ **A. Rekik**, A. Ben-Hamadou, W. Mahdi. Face pose tracking under Arbitrary Illumination Changes. **The International Conference on Computer Vision Theory and Applications** VISAPP-2014, Portugal, January, 5-8, 2014.

▷ **A. Rekik**, A. Ben-Hamadou, W. Mahdi. Fusion de modalités pour le suivi de pose 3D de visage. In the workshop **Traitement et l'Analyse de l'Information Méthodes et Applications** TAIMA-2013, Tunisia, May, 13-18, 2013.

▷ **A. Rekik**, A. Ben-Hamadou, W. Mahdi. 3D Face Pose Tracking using Low Quality Depth Cameras. In **The International Conference on Computer Vision Theory and Applications VISAPP-2013**, Spain, February , 21-24, 2013.

▷ A. Ben-Hamadou, C. Daul, C. Soussen, **A. Rekik**, and W. Blondel. A novel 3D surface construction approach: application to three-dimensional endoscopic data. In *IEEE International Conference on Image Processing ICIP*, pages 4425-4428, Hong Kong, September 26-29, 2010.