Mohamed **Zarka**

Personal Information

Tunisian
Date of Birth: July 12th, 1980

Contacts

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Languages

Arab (Mother tongue),
French (Fluent written and
spoken)
English (Well written and
spoken)

Main Skills

Python/Java Programming
Django Full Stack Web
Development
Artificial Intelligence
Linux system and network
administration.

Research Interests

Computer Vision
Speech Recognition
Machine Learning
Deep Learning
Knowledge Engineering

About Me

Mohamed ZARKA is currently an **Assistant Professor** at the King Khalid University (KSA). He is also a researcher in the Research Groups on Intelligent Machines (REGIM-LAB) at the National Engineering School of Sfax, University of Sfax (Tunisia). He received a **Bachelor of Engineering in Computer Science** from the University of Tunis El Manar (Tunisia) in 2003 and a **Master Degree in Computer Engineering** from the University of La Manouba (Tunisia) in 2006. He got a **Ph.D. in Computer Engineering Systems** from University of Sfax in 2016 with a thesis on knowledge-based approaches for accurate and efficient multimedia semantic indexing, supervised by Prof. Adel M. Alimi. His actual research interests focus multi-modal content understanding. More concretely, some of his research topics are **Computer Vision**, **Speech Analysis**, **Machine Learning**, **Deep Learning** and **Knowledge Engineering**.

Work Experience

2017 – Today **College of Science and Arts in Tanumah**   King Khalid University - KSA
Assistant Professor
Main provided courses: Programming (C++ and Java), Statistical Programming, Computer Vision, Software Project Management, Artificial Intelligence, Expert Systems and Knowledge Engineering, and Machine Learning. As part of the NCAAA academic quality accreditation, I am designated as the CS Program coordinator in the college.

2015 – 2017 **Computer Technologies Department**   Institute of Technologies in Kairouan - Tunisia
Associate Technologist
Main provided Graduate courses: Advanced Object Oriented Programming, Enterprise Resource Planning, Computer Aided Production Management, Write scientific documents with LaTeX.
Main provided Undergraduate courses: Operating Systems, Software Design, Software Development with JEE, Multimedia Information Retrieval Systems, and Java Persistence Frameworks.

2011 – 2014 **Institute of Technologies Department**   Institute of Technologies in Kairouan - Tunisia
Department Head

2008 – 2011 **Computer Technologies Department**   Institute of Technologies in Kairouan - Tunisia
Technologist Teacher
Main provided Undergraduate courses: Operating Systems, and Software Design.

2004 – 2008 **College of Computer Science and Management**   University of Kairouan, Tunisia
Contractual Lecture
Main provided Undergraduate courses: Operating Systems, and Software Design.

Education

2017 **Ph.D (Philosophiæ Doctor)**   University of Sfax - Tunisia
Computer System Engineering
The dissertation title is "Fuzzy Reasoning for Multimedia Semantic Interpretation: Fuzzy Ontology Based Model for Video Indexing" and the supervisor is Professor Adel M. Alimi.

2006 **M.Sc (Master of Science)**   University of La Manouba, Tunisia
Software Engineering
The dissertation topic deals with intelligent user interfaces design with the MAD method, and the supervisor is Professor Mohamed Ben Ahmad.

2003 **B.Eng. (Bachelor of Engineering)**   University of Al Manar, Tunisia
Computer Science
Undergraduate Scholarship was obtained within the Dedale team - LORIA — France ('Lorraine Research Laboratory in Computer Science and its Applications'), the University of Lorraine, France. The internship aimed to develop a system to automatically translate UML diagrams into formal specifications written in B language. http://www.crous-lorraine.fr/

Publications

2024

Youssef Zouhir, Mohamed Zarka and Kaïs Ouni. Bionic Cepstral coefficients (BCC): A new auditory feature extraction to noise-robust speaker identification. Applied Acoustics Journal, Volume 221, Elsevier. 2023.

2022

Youssef Zouhir, Mohamed Zarka and Kaïs Ouni. Power Normalized Gammachirp Cepstral (PNGC) coefficients-based approach for robust speaker recognition. Applied Acoustics Journal, Volume 205, Elsevier. 2023.

2020

Youssef Zouhir, Ines Ben Fredj and Kaïs Ouni, Mohamed Zarka. Robust speaker recognition based on biologically inspired features. Int. J. Signal and Imaging Systems Engineering, Inderscience Publishers, 2020.

2016

Zarka, M., Ammar, A. B., Alimi, A. M., Fuzzy reasoning framework to improve semantic video interpretation, Multimedia Tools and Applications, Springer, 75 (10), 5719−5750, 2016.

2015

Zarka, M., Ben Ammar, A., Alimi, A. M., Regimvid at Imageclef 2015 scalable concept image annotation task: Ontology based hierarchical image annotation, In Working notes for CLEF 2015 conference, Toulouse, France, September 8−11, 2015.

2012

Ksentini, N., Zarka, M., Ammar, A. B., Alimi, A. M., Toward an assisted context-based collaborative annotation, In 10th international workshop on content-based multimedia indexing, CBMI, pp. 71−76, Annecy, France, June 27−29, 2012.

2011

- Elleuch, N., Zarka, M., Ammar, A. B., Alimi, A. M., A fuzzy ontology: Based framework for reasoning in visual video content analysis and indexing, In Proceedings of the ACM Eleventh International Workshop on Multimedia Data Mining, New York, USA, 2011.
- Zarka, M., Ben Ammar, A., Alimi, A. M., fuzzy Multimodal fusion system for semantic video indexing, In IEEE Symposium on computational intelligence for multimedia, signal and vision processing, CIMSIVP 2011, (pp. 60−66), Paris, France, 2011.

2012

Elleuch, N., Zarka, M., Feki, I., Ben Ammar, A., Alimi, A. M., REGIMVID at TRECVID2010: semantic indexing, In TRECVID 2010 workshop participants' notebook papers, Gaithersburg, MD, USA, November 2010.

Conference Presentation and Poster

Since 2023	**Member of the Computer Science Program committee**
	College of Computer Science - King Khalid University - KSA
	Worked on the CS, artificial Intelligence track.

Oct. 2022	**First Scientific Symposium on Science and Arts: Current Trends and Challenges**
	Applied College in Rijal Alma'a - King Khalid University - KSA
	Oral presentation entitled "Robust speaker recognition based on biologically inspired feature"

Nov. 2018	**Scientific and Cultural Day** Department of Mathematics - King Khalid University - KSA
	Oral presentation entitled "Quran Based Multimedia Retrieval System"

Sep. 2015	**Conference and Labs of the Evaluation forum** Toulouse, France
	Poster presentation for the paper "Regimvid at Imageclef2015 scalable concept image annotation task: Ontology based hierarchical image annotation"

Jan. 2014	**Workshop of Intelligent Machines: Theory and Applications** Sousse, Tunisia
	Oral presentation entitled "Fuzzy Reasoning for Video Semantic indexing".

June 2012	**International Workshop on Content-Based Multimedia Indexing** Annecy, France
	Poster presentation entitled "Toward an assisted context based collaborative annotation"

Jan. 2011	**Workshop of Intelligent Machines: Theory and Applications** Hamamamt, Tunisia
	Poster presentation entitled "Multi-Modal Fuzzy Fusion: Application on Semantic Video Indexing".

Award and Grants

Nov. 2023	**First price in King Khalid University Award for Digital Transformation - Second Edition**
	King Khalid University, KSA, 2022
	The proposed project was to develop a workflow based system that could help the faculty members to edit, manage and review academic quality documents.

Oct. 2022	**First Place Presentation Award** King Khalid University, KSA, 2022
	For the presentation entitled "Robust speaker recognition based on biologically inspired feature" presented at First Scientific Symposium on Science and Arts: Current Trends and Challenges.

Nov. 2018	**Best Presentation Award** Sousse, Tunisia, 2014
	For the contribution entitled "Fuzzy Reasoning for Video Semantic indexing" presented at Workshop in Intelligent Machines: Theory and Applications.

Sep. 2015	**CLEF-2015-Toulouse Grant** Toulouse, France, 2015
	A grant to cover registration fees for students who attend CLEF 2015 in Toulouse, France, (350 €). http://clef2015.clef-initiative.eu/grants.php

Jav. 2003	**Undergraduate Scholarship grant** Nancy, France, 2015
	A grant for an scholarship within the Dedale team within LORIA at the University of Lorraine, France. (2800 €). http://www.crous-lorraine.fr

Projects, Memberships and Training

August. 2021	**AI Technology Summer School**	AI SINGAPORE

AI Technology Summer School — AI SINGAPORE
August. 2021

Dive into exciting Artificial Intelligence and machine learning research innovation that provides more efficient algorithms to deal with large-scale data in neurosciences, computer vision, speech recognition, language processing, human-computer interaction, drug discovery, biomedical informatics, healthcare, recommender systems, learning theory, robotics, games, etc.

July 2021 — **Optical Character Recognition with Python and OpenCV Certification** — PyImageSearch
https://www.credential.net/54b93114-c81c-498a-ad17-ec0d551e51df

October 2020 — **PyImageSearch Guru** — PyImageSearch
https://www.credly.com/preserved-badge/23564157

July 2020 — **Certificate of Completion : Independent Applying the QM Rubric** — Quality Matters
Independent Applying the QM Rubric (Virtual) (APPQMR)

2019/2020 — **Head of a Research Project** — King Khalid University - KSA
Research Project Entitled: "Arabic Character Recognition for Old Manuscripts. Project N. "r.g.p.1/146/40".

2019 — **Deep Learning Summer School** — Institute of Computer Science - Poland
Dive into exciting machine learning research and industrial innovation that provides more efficient algorithms to deal with large-scale data in neurosciences, computer vision, speech recognition, language processing, human-computer interaction, drug discovery, biomedical informatics, healthcare, recommender systems, learning theory, robotics, games, etc.

2016 — **Member of the Tunisian national committee for technologist teacher recruitment.** Institute of Technologies - Tunisia

2014 — **Member of the national committee for the review and reform of the undergraduate program (applied licence for computer technologies).** Institute of Technologies - Tunisia

2012 — **Technical Software Manager** — Institute of Technologies in Kairouan - Tunisia
Technical manager for the project of installing an electronic document management, and an electronic library (with Alfresco).

Since 2008 — **Member at the IEEE** — Institute of Electrical and Electronics Engineers
Member N: 90407933 - IEEE Region: R8 − Tunisia Section. Member of Computational Intelligence Society, Computer Society, Pattern Analysis and Machine Intelligence

Since 2008 — **Member of REGIM-LAB** Research Groups on Intelligent Machines - University of Sfax - Tunisia
http://www.regim.org

2003 — **Undergraduate Scholarship** — LORIA, University of Lauraine - France
Undergraduate Scholarship within the Dedale team - LORIA − France ('Lorraine Research Laboratory in Computer Science and its Applications'), the University of Lorraine, France. The internship aimed to develop a system to automatically translate UML diagrams into formal specifications written in B language.