

PROF. ANIS KOUBAA *h-index= 57, citation s to my papers =more than 12678*

Aide to the President of Research Governance | Research and Initiatives Director

Founder of the ArabianLLM Large Language Models – The First Native Arabic LLMs

AI Leadership Award, AI Expo, 2022

Shortlisted in Leadership and Management of the Year, Times Higher Education, UK, 2022

Top list of highly cited researchers in Saudi Arabia in area of Computer Science and Electronics

Stanford University List of Top 2% Scientists Worldwide

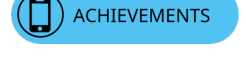
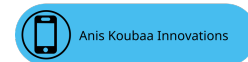
Professor in Computer Science

Senior Research at CISTER Research Unit (Portugal),

Senior Fellow of the HEA (SFHEA)

Rector Research Award (2012), Rector Teaching Award (2016)

Birthday : 30 July 1977 (Tunis)
Nationality : Tunisian
Status : Married
Mobile : +966508612974
Phone : +966114948851



Professional Address

Prince Sultan University

College of Computer and Information Sciences.

Riyadh (Saudi Arabia)

Mobile: +966 5 08 612 974

Email: akoubaa@psu.edu.sa, aka@isep.ipp.pt

Innovation Center (Executive Director)

Research and Initiatives Center (Director)

Robotics and Internet-of-Things Research Lab (Leader)

YouTube Educational Channel

Udemy Courses (2 Best Sellers Courses)

GitHub Repositories

Office E256, Old Building, First Floor.

: <https://innovation.psu.edu.sa/>
: <https://ric.psu.edu.sa/>
: <http://www.riotu-lab.org>
: <https://goo.gl/rGJrRn>
: <https://www.udemy.com/user/anis-koubaa/>
: <https://github.com/aniskoubaa> |
<https://github.com/riotu-lab>
<https://llm.riotu-lab.org/>
<https://ihunter.riotu-lab.org/>
<https://youtu.be/xV4Qs9WzzG8>
<https://youtube.com/playlist?list=PLq3WeRLpBYmJKIEijpQ9Phph3DeIDQ479>

Innovation Product (LLM,AI/UAV/Robots)

EMPLOYMENT SUMMARY

Year	Role	Organization
2019-now	Aide to President of Research Governance	Prince Sultan University, (Saudi Arabia)
2019-now	Director of Research and Initiatives Center	Prince Sultan University, (Saudi Arabia)
2024	Founder and Leader of ArabianLLM Project	
2023	Founder of the Innovation Center	Prince Sultan University, (Saudi Arabia)
2023	Consultant for Neom Tonomous Project.	Neom (Saudi Arabia)
2017-now	Director of the Robotics and Internet-of-Things Lab, Prince Sultan University	Prince Sultan University, (Saudi Arabia)
2016-2019	Robotics R&D Consultant	Gaitech Robotics (China) - Industry
2017-now	Full Professor	College of Computer and Information Sciences, Prince Sultan University, (Saudi Arabia)
2012 - 2017	Associate Professor	College of Computer and Information Sciences, Prince Sultan University, (Saudi Arabia)
2006 - now	Senior Researcher	CISTER Research Unit at ISEP/IPP, (Portugal)
2011-2012	Associate Professor and Consultant in Networking and IT Strategic Planning	CCIS-AI-Imam (Saudi Arabia)
2006-2011	Assistant Professor	CCIS-AI-Imam University, (Saudi Arabia)
2005-2006	Post-Doc Researcher	CISTER Research Unit at ISEP/IPP, (Portugal)
2004-2005	Assistant Professor	University of Nancy I / IUT Nancy Brabois, (France)
2001-2005	Lecturer	National Polytechnic Institute of Lorraine (INPL)

EDUCATION

2011	Habilitation Qualification in Computer Science , Doctoral School of ENIS, Tunisia
2001-2004	PhD in Computer Science , National Polytechnic Institute of Lorraine (INPL), INRIA Lorraine, France <i>Graduated:</i> 27 October 2004, Prof. Jean-Pierre THOMESSE, Prof. Ye-Qiong SONG
2000-2001	Master in Computer Science (<i>Telecommunications, Networks and Services</i>), University of Henri Poincaré Nancy I, FRANCE, Rank 9th/60 , July 2001. <i>Subject:</i> Switched Ethernet and QoS for Real-Time Applications
1997-2000	Engineering Degree in Telecommunications , (<i>Specialty: Computer Science and Networks</i>), Engineering School of Telecommunications of Tunis (Sup'Com), Ranked 3rd/27 , July 2000.

DISTINCTIONS AND AWARDS

April 2022	<i>AI and Cloud Expo and Conference, 2022</i> AI Leadership Award Best AI Product Award
March 2022	Shortlisted in the Times Higher Education Asia Award 2022 , <i>Track: Leadership and the Management of the Year</i> (final results 31 May 2022)
Nov 2021	<i>Selected for the second year in the Stanford University List of Top 2% Scientists Worldwide, Carrier-based and annual-based 2020.</i>
April 2021	<i>Winner of KAUST Challenge for Hajj and Umrah, Mobility Track (1300 participants worldwide) – Awarded by Prince Khaled Alfaisal, Governor of Makkah.</i>
Dec 2020	<i>Selected in the Stanford University List of Top 2% Scientists Worldwide, Carrier-based and annual-based 2019.</i>
June 2016	<i>Rector Teaching Award, Prince Sultan University</i>
Nov 2015	<i>Ranked 23rd most leading Tunisian scientists in the three areas combined of Mathematics, Computer Science and Engineering based on the H-Index from Google Scholars evaluated at that time to 25. I am ranked the 6th scientist in the computer science discipline among all Tunisian scientists worldwide.</i> Reference: Houcemeddine Turki, “ <i>Leading Tunisian Scientists in Mathematics, Computer Science and Engineering. An Overview</i> ” in GRIN Verlag, November 2105.
Oct 2015	<i>Senior Fellow and the HEA – UK , Prince Sultan University.</i>
June 2011	<i>Teaching and Learning Certificate, by Wolongong University; Al-Imam University.</i>
Feb 2011	<i>Best Master Award, for my Master Student Maissa Ben Jamaa for her Master Thesis <i>An Experimental Study for the Performance Evaluation and Optimization of Link Quality Estimators in Wireless Sensor Networks</i>. Award granted at EWSN 2011 conference and Sponsored by the European Network of Excellence CONET.</i>
Mar 2010	<i>Research Excellence Prize, at Al-Imam Mohamed bin Saud University, Area: Natural and Computer Sciences.</i> I received this award in the first annual competition organized by Al-Imam Mohamed bin Saud University for his faculty members. I was one of the four award winners at the University level in all disciplines, so I was the only winner of the Research Excellence Prize in the area of Natural and Computer Sciences. Link: http://www.imamu.edu.sa/news/Pages/news_24_03_1431_1.aspx
Dec 2009	<i>Best Demo Award, The First International School on Cyber-Physical and Sensor Networks (SensorNets 2009), Monastir, Tunisia, December 17-22, 2009.</i> <i>Prize Certificate is attached to this activity report.</i>
Feb 2009	<i>Best Master Award, for my Master Student Ricardo Severino for his Master Thesis <i>On the use of IEEE 802.15.4/ZigBee for Time-Sensitive Wireless Sensor Network Applications</i>. Award granted at EWSN 2009 conference and Sponsored by the European Network of Excellence CONET.</i> Link: http://www.cooperating-objects.eu/events/ewsn-2009-awards/
July 2007	<i>Best Paper Award in ECRTS 2007 conference.</i> <i>The most reputed conference in real-time systems in Europe.</i>

EXECUTIVE LEADERSHIP IN PIONEERING AI INNOVATION AND COMMERCIALIZATION

As a strategic visionary and founding leader at Prince Sultan University, I have pioneered transformative AI research and technological innovations, notably leading the development of the first native Arabic Large Language Model (LLM) - ArabianGPT, part of the ArabianLLM Project. This initiative, along with a suite of AI and drone technologies, underscores my commitment to filling critical technological gaps and advancing commercial-ready products that drive global competitiveness and innovation.

Strategic Vision and Leadership:

- Developed a comprehensive AI integration strategy, positioning PSU as a leader in AI research and technological advancement, with a focus on developing solutions that are not only academically significant but also ready for commercial deployment.
- Directed the strategic vision for embracing AI to revolutionize education, security, logistics, and agriculture, fostering a culture of innovation and setting a benchmark for global academic institutions.

ArabianLLM Project with ArabianGPT: As a testament to my visionary leadership, I spearheaded the ArabianLLM Project (<https://llm.riotu-lab.org/>), introducing ArabianGPT as the world's first native Arabic LLM. This groundbreaking initiative addresses a significant void in Arabic natural language processing (NLP), offering unparalleled capabilities in understanding, interpreting, and generating Arabic text. ArabianGPT stands as a cornerstone achievement, promoting linguistic inclusivity and enabling technological empowerment for Arabic-speaking communities globally. This project not only exemplifies innovation but is poised for commercialization, ready to transform industries reliant on Arabic NLP.

Innovative AI and Drone Technologies:

- **iHUNTER Autonomous Drone System** (<https://ihunter.riotu-lab.org/>): Led the development of iHUNTER, a UAV system designed for autonomous detection and interception of aerial targets. Utilizing machine learning, computer vision, and advanced control algorithms, it can precisely track and surveil targets for security and surveillance in sensitive areas. Its integration of AI with Kalman Filter algorithms for target detection and trajectory prediction showcases significant advancements in UAV technology for critical infrastructure protection and emergency response applications.
- **Terrain-Aided Navigation for Autonomous UAVs** (<https://tangu.riotu-lab.org/>): This project focuses on enabling UAV navigation in GPS-denied environments through the development of a sophisticated sensor fusion model. Utilizing IMU, Radar, LIDAR, and Barometer data, it aims to accurately estimate the UAV's position. Advanced simulation via Gazebo and implementation in ROS framework are pivotal for validating the algorithms. Funded with 300,000 SAR for a 12-month period starting December 2023, this initiative promises significant advancements in autonomous UAV localization and navigation technologies.
- **PSU-GPT Chatbot:** Led the development of an AI-driven chatbot, enhancing university engagement and support, and marking a significant step towards digital transformation with potential for broader educational and commercial applications.
- **Oyoon Surveillance System:** Orchestrated the creation of a state-of-the-art surveillance solution, employing advanced AI for vehicle and facial recognition, showcasing the system's readiness for commercial deployment in security and operational management.
- **Drone Innovations:** Pioneered diverse drone technologies including **VTOL drones for logistics and emergency responses**, agricultural drones for precision farming, and the AERO surveillance system, all of which are designed with commercial viability in focus, demonstrating practical applications beyond academic research.
- **Wassel Delivery Drone:** Initiated the Wassel project, a breakthrough in autonomous drone delivery, exemplifying the commercial potential of AI innovations in redefining logistics and supply chain solutions.

Commercial Impact and Leadership Legacy: My leadership has been instrumental in transitioning these high-caliber AI and drone projects from concept to commercial-ready products, setting a new standard for technological innovation and application. By bridging the gap between academic research and market needs, I have not only propelled Prince Sultan University to the forefront of global AI research but have also paved the way for these innovations to make a tangible impact in the commercial sector. My commitment to excellence, strategic foresight, and innovative spirit continues to drive the agenda for a future where technology and education converge to create global solutions.

EXECUTIVE LEADERSHIP & STRATEGIC GOVERNANCE

In my capacity as Aide to the President for Research Governance and Director of the Research and Initiatives Center, I have spearheaded pivotal transformations within the research ecosystem, achieving the following significant milestones:

Achievements:

- **Strategic Transformation:** Spearheaded the comprehensive restructuring of research and innovation governance, resulting in Prince Sultan University's ascent from being unranked to the third-highest ranked university in Saudi Arabia according to Times Higher Education World Rankings.
- **Visionary Leadership:** Achieved a significant milestone by realizing the university's five-year strategic vision of entering the top five universities in Saudi Arabia and securing a position in the Times Higher Education World Rankings.
- **Research Excellence:** Implemented strategic initiatives that increased research productivity, leading to a record-breaking achievement of over 1500 Scopus-indexed publications in a single year, exceeding the initial target of 200 publications.
- **Infrastructure Development:** Directed the establishment of 24 research labs and groups, up from a single lab, fostering an environment conducive to cutting-edge research and innovation.
- **Global Recognition:** Under my leadership, Prince Sultan University was shortlisted for the prestigious Times Higher Education Award in Leadership and Management in 2022, highlighting the university's exemplary governance and strategic planning.

Key Contributions:



- **Decentralized Governance:** Innovated research decision-making processes by decentralizing governance, empowering individual colleges to drive their research agendas effectively.
- **Cultural Transformation:** Initiated a cultural shift towards research and innovation among faculty members, significantly enhancing faculty involvement and satisfaction in research activities.
- **Strategic Alliances:** Fostered strategic partnerships with industry and external partners, amplifying research funding and opportunities for collaborative innovation.
- **Academic Inclusivity:** Promoted the involvement of undergraduate students in research, contributing to a vibrant ecosystem of innovation and scholarly engagement.

Outcome: The strategic and governance initiatives I led at Prince Sultan University not only elevated its academic standing on a national and international level but also fundamentally transformed its research culture, positioning the university as a beacon of innovation and excellence in higher education.

LICENSES AND CERTIFICATIONS

- ***Create Your First Chatbot with Rasa and Python***
Coursera, Issued Jun 2020 · No Expiration Date
Credential ID 4DSXD8VR3H7CCredential ID 4DSXD8VR3H7C
- ***Project: Predicting House Prices with Regression using TensorFlow***
Coursera, Issued Jan 2020 · No Expiration Date
Credential ID 39UBGDYQEDXU
- ***Improving Deep Neural Networks: Hyperparameter tuning, Regularization and Optimization***
Coursera, Issued Jul 2018 · No Expiration
Credential ID SUAJCT88S46D
- ***Structuring Machine Learning Projects***
Coursera
Issued Jul 2018 · No Expiration Date
Credential ID UQTNJFG9MC4F
- ***Apache Spark Essential Training***
LinkedIn
Issued May 2018 · No Expiration Date
- ***Neural Networks and Deep Learning***
Coursera Course Certificates
Issued May 2018 · No Expiration Date
Credential ID 5WEBSEDK7FYC
- ***OpenCV for Python Developers***
LinkedIn
Issued May 2018 · No Expiration Date
- ***Building and Deploying Deep Learning Applications with TensorFlow***
LinkedIn
Issued Apr 2018 · No Expiration Date
- ***Cloud Networking***
Coursera Course Certificates
Issued Dec 2015 · No Expiration Date
Credential ID 73Q65RF76U
- ***Senior Fellow of the HEA-UK***
Higher Education Academic (HEA-UK), 2016

INNOVATION WORKS



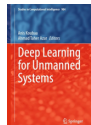

Year	Title	Description
2020-2024	 	A video compilation of my innovation works

BOOKS EDITORIAL AND AUTHORSHIP ACTIVITIES

More than 16 books with Springer and Elsevier publishers, top publishers in Engineering

BOOKS EDITORIAL AND AUTHORSHIP ACTIVITIES

More than 16 books with Springer and Elsevier publishers, top publishers in Engineering

Year	Role	Book
2023	Book Editor 	Mohamed Abdelkader (editor), Anis Koubaa (editor), Unmanned Aerial Vehicles Applications: Challenges and Trends - Synthesis Lectures on Intelligent Technologies (Hardback), 2023
2023	Book Editor 	Wadii Boulila, Jawad Ahmad, Anis Koubaa, Maha Driss, Imed Riadh Farah, Decision Making and Security Risk Management for IoT Environments, Springer, 2023
2016-2022	Book Editor 	Springer Book Series “Studies in Computational Intelligence”, Book Title: Robot Operating Systems – The Complete Reference (<u>Seven</u> volumes) (Volume 1 - 2016) (Volume 2- 2017) (Volume 3-2018) (Volume 4-2019) (Volume 5-2020) (Volume 6-2021) (Volume 7-2022) <i>In the top 25% most downloadable books in Springer</i>
2021	Book Co-Editor 	Springer Book Series “Studies in Computational Intelligence”, Book Title: Deep Learning for Unmanned Systems”, Springer. ISBN: 978-3-030-77939-9
	Book Co-Editor 	Book Title: Unmanned Aerial Systems: Theoretical Foundation and Applications Paperback ISBN: 9780128202760 eBook ISBN: 9780128202777

2018	First Author 	Springer Book Series “Studies in Systems, Decision and Control”, Book Title: <i>Robot Path Planning and Cooperation</i> ISBN: 978-3-319-77042-0
2015	Book Editor 	Springer Book Series “Studies in Systems, Decision and Control”, Book Title: <i>Robots and Sensor Clouds</i> Part of the Studies in Systems, Decision and Control book series (SSDC, volume 36) ISBN: 978-3-319-22168-7
2012-2014	Book Editor 	Springer Book Series “Studies in Computational Intelligence”, Book Title: <i>Cooperative Robots and Sensor Networks (three editions)</i> Springer Book Series “Studies in Computational Intelligence”,
2013	Book Co-Author 	Book Title: <i>“Radio Link Quality Estimation in Low-Power Wireless Networks”</i> Part of the SpringerBriefs in Electrical and Computer Engineering book series (BRIEFSELECTRIC) Also part of the SpringerBriefs in Cooperating Objects book sub series (BRIEFSCOOPERAT)
2013	Book Co-Author 	Book Title: <i>“IEEE 802.15.4 and ZigBee as Enabling Technologies for Low-Power Wireless Systems with Quality-of-Service Constraints”</i> Part of the SpringerBriefs in Electrical and Computer Engineering book series (BRIEFSELECTRIC) Also part of the SpringerBriefs in Cooperating Objects book sub series (BRIEFSCOOPERAT) ISBN: 978-3-642-37368-8

JOURNAL EDITORIAL ACTIVITIES

Year	Role	Journal
2022	Topic Editor	Research Topic Editors' Showcase: Aerial and Space Networks – 2022. Frontiers in Space Technologies
2022	Special Issue Editor	Co-Editor in Special Issue "Special Issue "Recent Trends of Generative Adversarial Networks (GANs) in Remote Sensing Applications"", MDPI Remote Sensing (Q1).
2021	Special Issue Editor	Co-Editor in Special Issue "Deep Learning Techniques for

		Manned and Unmanned Ground, Aerial and Marine Vehicles", MDPI Electronics (Q2).
March 2016-2019	Editor-in-Chief	Robotics Software Engineering, International Journal of Advanced Robotic Systems (Sage Publishing)
2014	Guest Editor	Springer Journal of Ambient Intelligence and Humanized Computing
2014-now	Associate Editor	Journal of Cyber-Physical Systems (Tailor & Francis)
2012	Associate Editor	International Journal of Advanced Robotic Systems (IntechOpen)
2011	Guest Editor	Springer Journal of Personal and Ubiquitous Computing
2011	Editorial Board Member	International Journal of Ubiquitous Systems and Pervasive Networks
2010	Editor in Chief	Journal of Computer Science and Engineering, in Arabic
2010	Guest Editor	The International Journal Communications of the ACS, (in Arabic Language).

(RECENT) PARTICIPATION TO INTERNATIONAL SCIENTIFIC COMMUNITY

Keynote Speaker (2019-2022 only)

- Member of the discussion Panel on Leveraging AI with Unmanned Systems, Second International Conference of Smart Systems and Emerging Technologies, Riyadh, Saudi Arabia, May 2022
- KAUST Research Conference on Robotics and Autonomy 2022, Monday, Feb 28th - Wednesday, Mar 2nd, KAUST, Thuwal, Saudi Arabia
- The 2022 International Conference on Digital Technologies and Applications, Faculty of Science, Laboratory LIMAS in Fez, Morocco, and the SMEEA Association
- The 9th Saudi Technical Conference and Exhibition (STCEX 2021), Riyadh, Saudi Arabia
- Talk for The Center of Excellence in Intelligent Engineering Systems (CEIES), King Abdulaziz University, April 2021
- KAUST Research Conference on Robotics and Autonomy 2021, Monday, Mar 31th - Wednesday, Apr 1st, KAUST, Thuwal, Saudi Arabia
- NTNU PSU Webinar: The Internet-of-Unmanned Systems: Integrating Robots and Drones into the Internet and the Cloud, Norwegian University of Science and Technology (NTNU), May 2020
- NTNU PSU Webinar: Robot Operating System (ROS) Part II: How did it revolutionize robotics software development? Norwegian University of Science and Technology (NTNU), April 2020
- 17th IEEE International Multi-Conference on Systems, Signals & Devices 2020 March 23-26, 2020 Monastir, Tunisia
- Saudi Drone Summit, Riyadh, April 2019
- Saudi Robotics, Jubail, Saudi Arabia, 2019
- KAUST Conference on Sustainable Urban-Environmental Future, Thuwal, Saudi Arabia, April 2019
- The 1st Unmanned Vehicle Systems (UVS-Oman 2019), Oman, Feb 2019

Participation as Chair/Founder

- General Chair of the Second International Conference of Smart Systems and Emerging Technologies, Riyadh, Saudi Arabia, May 2022.
- Advisory board in the 15th International Conference on Security of Information and Networks (SINCONF2022)
- Co-Chair MASE 2022: Special Session on Malware Analytics in Smart Environments, 14th International Conference on Computational Collective Intelligence, 28-30 September 2022, Hammamet, Tunisia
- Program Chair and Founder of the first International Conference of Smart Systems and Emerging Technologies, Riyadh, Saudi Arabia, September 2020.
- Chair of the Internetworking Unmanned Ground and Aerial Systems (INUGAS) Symposium, Cyprus, 2020.
- INTERNETWORKING UNMANNED GROUND AND AERIAL SYSTEMS (INUGAS) SYMPOSIUM
- Publication Chair of 6th Symposium on Data Mining Applications (CDMA 2020)
- Publication Chair of 5th Symposium on Data Mining Applications (CDMA 2016)
- Local Arrangements Co-Chair, 4th Symposium on Data Mining Applications (SDMA 2016).
- Publicity Co-Chair in European Conference on Wireless Sensor Networks (EWSN 2015).
- Founding Chair of Robots and Sensor Clouds Workshop, RSC 2014, Canada, 2014.
- Founding Chair of Cooperative Robots and Sensor Networks Workshop, RoboSense 2014, Hasselt, Belgium, June 2 - 5, 2014.
- Founding Chair of Cooperative Robots and Sensor Networks Workshop, RoboSense 2013, Ontario, Canada, 2013.
- Founder and Chair of Cooperative Robots and Sensor Networks International School, RoboSense School 2012, Tunisia, 2013.
- Track chair of Wireless Sensor and Ad-Hoc Networks track, ICT 2013, Sponsored by IEEE, Tunisia.
- Founder and Chair of Cooperative Robots and Sensor Networks Workshop, RoboSense 2012, Ontario, Canada, 2012.
- The 3rd International Conference on Ambient Systems, Networks and Technologies (ANT-2012), Ontario, Canada, 2012.
- The 2nd International Conference on Ambient Systems, Networks and Technologies (ANT-2011), Ontario, Canada, 2011.
- The 6th International Symposium on Intelligent Systems Techniques for Ad hoc and Wireless Sensor Networks, Ontario, Canada, 2011.
- The International Conference on Wireless and Ubiquitous Systems (ICWUS 2010), October 2010, Sousse, Tunisia.
- **Founder and Program Chair** of the First International School on Cyber-Physical Systems and Sensor Networks, December 2009.
- The 7th Workshop of Real-Time Networks, RTN'08, Prague, Czech Republic, July 1, 2008, in conjunction with the 20th Euromicro Intl Conference on Real-Time Systems.

Participation as Program Committee Member (2010-2020 only)

- 16 th International Conference on Wireless Communications and Mobile Computing, Cyprus, 2020
- 19th IEEE International Conference on Autonomous Robot Systems and Competitions, Portugal, 2019

- 18th IEEE International Conference on Autonomous Robot Systems, Portugal, 2018
- 15th ACS/IEEE International Conference on Computer Systems and Applications, 2018
- The Second IEEE International Conference on Robotic Computing, 2018
- 14th IEEE International Workshop on Factory Communication Systems, 2018
- The 8th International Conference on Cyber-Physical Systems (ICCPS), Pittsburgh, PA, USA, from 18 to 21 April 2017. (Class A* conference)
- The IEEE International Conference on Autonomous Robot Systems and Competitions, April 2017 in Coimbra, Portugal.
- 13th IEEE International Workshop on Factory Communication Systems (WFCS 2017), May 31 - June 2, 2017, Trondheim, Norway
- IEEE Robotic Computing 2017, Taiwan.
- The IEEE International Conference on Autonomous Robot Systems and Competitions, May 2016 in Bragança, Portugal.
- The 7th International Conference on Cyber-Physical Systems (ICCPS), Vienna, Austria, from 11 to 14 April 2016. (Class A* conference)
- The Fifth International Conference on Communications and Networking (ComNet 2015), Tunisia.
- The IEEE Real-Time Systems Symposium (RTSS 2014).
- The 5th International Conference on Ambient Systems, Networks and Technologies, Hasselt, Belgium, 2014.
- The 9th International Conference on Future Networks and Communications August 17-20, 2014, Niagara Falls, Ontario, Canada
- The 4th International Conference on Ambient Systems, Networks and Technologies, Ontario, Canada, 2013.
- The 15th International Conference on Principles of Distributed Systems (OPODIS 2011).
- The 10th International Workshop on Real-Time Networks, Porto, Portugal, July 2011.
- The International Workshop on Wireless Sensor, Actuator and Robot Networks (WiSARN), Shanghai, China, April 2011.
- Third International Conference on Ad Hoc Networks, August 18-20, 2010, Paris, France.
- The Australasian Telecommunication Network Application Conference, 31 October - 3 November 2010, Langham Hotel, Auckland, New Zealand.
- Second International Conference on Ad Hoc Networks, August 18-20, 2010, Victoria, British Columbia, Canada.

COMPETITIVE RESEARCH PROJECTS

Year	Project	Role	Country	Funding Program/Institute
2022	Serve Palms: Revolutionizing the Saudi Large Palm Farms by Smart Palm Tracking and Early Disease Detection	Co-PI	Saudi Arabia	Prince Sultan University
2021	Wassel: Development of Unnamed Aerial System for Delivery and Surveillance Applications	Co-PI	Saudi Arabia	Prince Sultan University
2021	Robotic Fleet Management System	PI	Saudi Arabia	Confidential (industrial company)
2021	Road Cracks Detection using Deep Learning	PI	Saudi Arabia	STC Specialized.
2021	Person Detection from Aerial Images using Deep Learning	PI	Saudi Arabia	STC Specialized.
2020	DeepBrain: A Cloud-Based Deep Learning Framework for AI-Powered Unmanned Aerial Vehicles (UAVs) Applications	PI	Saudi Arabia	Prince Sultan University
2020	Oyoon: Promoting Public Safety and Security using Deep Learning	Co-PI	Saudi Arabia	Prince Sultan University
2020	Congestion Detection and Traffic Signal Delay Avoidance Protocol (CD-TSDAP) using Vehicular Ad-hoc Networks (VANETs)	Co-PI	Saudi Arabia	Prince Sultan University
2019	Smart Plam Project	PI	Saudi Arabia	Elm Company
2016-2018	SafeCop Project	WP3 Leader,	Portugal	EU H2020

		Member		
2016-now	ROS Projects for Gaitech Robotics	Principal Investigator	China	Gaitech Robotics China
October 2015	DroneMap: A Cloud Robotics System for Unmanned Aerial Vehicles in Surveillance Applications	Principal Investigator	Saudi Arabia	King Abdulaziz City for Science and Technology
Oct. 2014–Sep. 2016	3D Virtual Environment for Disaster Management using Cooperative Autonomous Agents and Sensor Networks.	Co-Investigator	Saudi Arabia	Prince Sultan University
July 2014–June 2015	myBot: A Personal Assistant Robot. Case Study for Elderly People Care.	Principal Investigator	Saudi Arabia	King Abdulaziz City for Science and Technology
October 2014	Energy Efficient Deployment of Mobile Actuators Sensor Networks (MAS-net) for Monitoring Hazardous Environments	Member	Saudi Arabia	National Plan for Science and Technology and Innovation (NPSTI) Collaboration with KFUPM
Dec 2012–Nov 2014	iRoboApp: Design and Analysis of Intelligent Algorithms for Robotic Problems and Applications	Principal Investigator	Saudi Arabia	National Plan for Science and Technology and Innovation (NPSTI)
Oct 2009 – Sept 2011	R-Track: distributed multi-robot tracking system using wireless sensor networks	Principal Investigator	Saudi Arabia	National Plan for Science and Technology and Innovation (NPSTI)
Oct 2008-Sep 2012	COTS4QoS Cluster, CONET Network of Excellence	Investigator	Portugal	European Union
May 2010 - Apr 2012	Z-Monitor: A Monitoring Tool for IEEE 802.15.4 Wireless Personal Area Networks	Principal Investigator	Saudi Arabia	Al-Imam Mohamed bin Saud University

OPEN SOURCE SOFTWARE

Our open-source software is available on these GitHub repositories

<https://github.com/riotu-lab/> and <https://github.com/aniskoubaa>

Open-source software prior to 2020

Software Acronym	Description	Website
SmartPalm 2019	Smart Palm: An IoT Framework for Red PalmWeevil Early Detection	http://www.riotu-lab.org/smartpalm.php
Dronemap Planner 2019	Dronemap Planner is a service-oriented cloud based drone management system that provides access to drones through web services (SOAP and REST), schedule missions and promote collaboration between drones.	http://wiki.coins-lab.org/index.php?title=Dronemap
iPath 2014	iPath is C++ library that implement simulation models for several intelligent path planners including A*, Genetic Algorithms, Ant Colony Optimization, Tabu Search, Relaxed A* and Relaxed Dijkstra. This library was integrated with global path planner modules of the Robot Operating System (ROS). Tutorials are available on the iPath website.	http://www.iroboapp.org/index.php?title=iPath https://code.google.com/p/ipath/ The code is open source under the GNU license.

MRTASim 2014	The Multi-Robot Simulator is a MATLAB tool that permits to simulate a varieties of multi-robot applications and protocols, namely the Travelling Salesman Problem, The multiple Travelling salesmen problem (MTSP), The Multiple Depot Multiple Travelling Salesmen Problem (MDMTSP), The assignment Problem, etc.	http://www.iroboapp.org/index.php?title=MRTASim
Open-LQE 2012	The open-LQE web site includes the following open-source toolset: RadiaLE software tool: RadiaLE is a benchmarking test-bed that enables the performance evaluation of LQEs.	http://open-lqe.cister-isep.info/
Z-Monitor 2011	Z-Monitor (ZM) is a free tool for monitoring and controlling IEEE 802.15.4 Low Power Wireless Personal Area Networks (LoWPANs).	http://www.z-monitor.org/ https://code.google.com/p/z-monitor/ Open source under GNU GPL License. More than 800 downloads.
Open-ZB 2011	The open-ZB web site provides open-source tools for IEEE 802.15.4 and ZigBee, the most widespread technologies for Wireless Sensor Networks	http://www.open-zb.net/

INVITED TALKED AND SEMINARS (PRIOR 2019)

Year	Event	Country	Inviting Institute	Audience
Nov 2019	Role of Universities in Promoting Drones in Saudi Arabia	Saudi Arabia	Saudi Drone Community	30
Dec 2019	Lecture Series on Deep Learning	Saudi Arabia	RIOTU Lab	30
Dec 2018	Seminar on ROS Navigation Stack	China	Gaitech Robotics	15
Dec 2018	Introduction to ROS	China	East China University of Science and Technology	20
Sept 2017	Introduction to Robot Operating System (ROS)	Tunisia	International Institute of Technology (IIT-Sfax)	~ 50
2016	1+1>2: Impact of Collaboration in Research	Saudi Arabia	Research and Translation Center, PSU	~ 50
Jan. 2014	First CCIS Research Forum	Saudi Arabia	Prince Salman Research Center (PSU)	~ 20
Feb. 2014	Seminar on Cloud Robotics	Portugal	CISTER Research Unit	~ 30
May 2014	Seminar on RPL Routing Protocol	Saudi Arabia	College of Engineering (PSU)	~ 30
Oct. 2013	Public lecture on mobile robots	Saudi Arabia	Saudi Computer Society	~ 60

CURRENT PHD STUDENTS

Name	PhD Project	Expected Graduation Date
Enio Filho	Safety of Cooperative Vehicular Platoons	Dec 2022

PAST PhD STUDENTS

Name	PhD Project	Graduation Date
Azza Allouch	Safety and Security in the Internet of Drones	June 2020
Rihab Chaari	Offloading Computation from Robots to The Cloud, ENSI, Tunisia	December 2020
John Kurunathan	Quality of Service Modeling for IEEE 802.15.4e, CISTER Research Unit, Portugal	Dec 2018
Oussama Karoui	Safety Modeling of Connected Autonomous Cars, University of Macau, China	Dec 2018
Imen Chaari	Design, Analysis, and Implementation of Mobile Robot Global Path Planning Algorithm, ENSI, Tunisia	December 2016
Emna Guerfala	Reconfigurable Mobile Robot Platoons for Safety Assurance, EPT, Tunisia	June 2018
Sahar Trigui	Design of Multi-Robot Task Allocation for Mobile Robots, ENSI, Tunisia	December 2016
Omar Cheikhrouhou	Secure Group Communication in Wireless Sensor Networks	March 2012
Olfa Gaddour	Quality-of-Service Aware Routing for IPv6-based Low-Power and Lossy Wireless Sensor Networks using Standard Protocols	January 2015
Hossein Fotouhi	Mobility Management in Wireless Sensor Networks	January 2015
Maissa Ben Jemaa	RSSI-based Localization in Wireless Sensor Networks	June 2016
Petr Jurcik	Real-Time Communication over Cluster-Tree Wireless Sensor Networks	01Oct. 2010

MASTER STUDENTS

Name	PhD Project	Graduation Date
Maram Al-Ajlan <i>University:</i> National School of Engineering of Sfax (ENIS, Tunisia).	Mobile Robot Path Planning	May 2014
Imen Chaari <i>University:</i> National School of Engineering of Sfax (ENIS, Tunisia).	smartPATH: A Hybrid ACO-GA Algorithm for Robot Path Planning	<i>Start date:</i> Dec 2010. <i>Defended on:</i> March 2012.
Sahar Trigui <i>University:</i> National School of Engineering of Sfax (ENIS, Tunisia).	Cooperative multi-robot task allocation using wireless sensor networks	<i>Start date:</i> Oct 2010. <i>Defended on:</i> Feb 2012
Rihab Chaari <i>University:</i> National School of Engineering of Sfax (ENIS, Tunisia).	Performance Evaluation of 6LoWPAN Protocol	<i>Start date:</i> Oct 2010. <i>Defended on:</i> Feb 2012
Maissa ben Jamaa	A Framework for Benchmarking Link Quality Estimators In Wireless Sensor Networks	<i>Start date:</i> 2009. <i>Defended</i>

<i>Start date:</i> Oct 2010. <i>Defended on:</i> Feb 2012	(Received the Best M.Sc. Award, in the European CONET/EWSN 2011 conference).	<i>on:</i> 27 July. 2010
Ricardo Severino CISTER Reseach Unit (Portugal)	On the use of IEEE 802.15.4/ZigBee for Time-Sensitive WSN Applications (received the Best M.Sc. Award, in the European CONET/EWSN 2009 conference).	<i>Start date:</i> 2008. <i>Defended on:</i> Oct. 2008.
Olfa Gaddour <i>University:</i> National School of Engineering of Sfax (ENIS, Tunisia).	SeGCom: The Secure Group Communication Mechanism in Wireless Sensor Networks	<i>Start date:</i> 2008. <i>Defended on:</i> 15 September 2009.
Andre Cunha (Portugal)	On the use of IEEE 802.15.4/ZigBee as federating communication protocols for Wireless Sensor Network	<i>Start date:</i> 2006. <i>Defended on:</i> Sept. 2007

ADMINISTRATIVE AND ACADEMIC RESPONSIBILITIES

Prince Sultan University

2022
Executive Director of the Innovation Center
Director of Research and Initiatives Center
Aide to Rector of Research Governance
Director of the Robotics and Internet of Things Lab
Member of CCIS Recruitment Committee
Member THE INSTITUTIONAL EXECUTIVE QUALITY COMMITTEE (IEQC)
Co-Chair (Univ President if the Chair) of RESEARCH EXECUTIVE COMMITTEE

From 2019
Director of Research and Initiatives Center
Aide to Rector of Research Governance
Director of the Robotics and Internet of Things Lab
Co-Chair of the EXECUTIVE RESEARCH COMMITTEE (ERC)
Member THE INSTITUTIONAL EXECUTIVE QUALITY COMMITTEE (IEQC)
Member PSU RESEARCH ROAD MAP 2030 PROJECT
RIC EXECUTIVE COMMITTEE
Chair of the ACM Chapter in Saudi Arabia
Member of College Research Committee

2018
Intellectual Property Committee
Leader of the Robotics and Internet of Things Lab
Chair of the ACM Chapter in Saudi Arabia
Member of College Research Committee

2015-2017
Chair of the curriculum development committee in the CS department
Chair of the ACM Chapter in Saudi Arabia
Senior Fellow mentor for HEA fellowship candidates at Prince Sultan University
Member of curriculum development committee in the CS department
Member of Research and Translation Center at Prince Sultan University (until Dec 2015).
Mentor for students in the Ericsson ICT program.

2014-2015
Member of Research and Translation Center at Prince Sultan University
Chair of the ACM Chapter in Saudi Arabia
Mentor for HEA fellowship candidates at Prince Sultan University
Senior Fellow mentor for HEA fellowship candidates at Prince Sultan University
Chair of the Research Committee at CCIS-PSU

2013-2014
Assistant Director of Teaching and Learning Center
Member of Research and Translation Center at Prince Sultan University
Member of the Research Committee at CCIS-PSU
Participation in NCAAA accreditation process of the CS program

2012-2013
Member of the Teaching and Learning Center
Member of Research and Translation Center at Prince Sultan University
Member of the Research Committee at CCIS-PSU
Participation in NCAAA accreditation process of the CS program

Al-Imam Mohamed bin Saud University (selected activities)

2006-2012
IT Consultant (2011-2012)
Coordinator of **NCAAA Quality and Accreditation Unit**, CS department, since 2007.
Selected faculty member to participate in the discussions of Strategic Plan of Al-Imam University prepared in collaboration with Stanford Research Institute (SRI), 2010.
Chair of Graduation Project Committee, since 2007
Chair of Course Coordination Committee, since 2006

TRAINING AND CONSULTANCY (SELECTED)

- **Deep Learning Seminars**, Prince Sultan University, 2019-2021
- **Trainer, Drone, and Photogrammetry**, Prince Sultan University, 2019-2020
- **Trainer, Drone Pilot Training Program**, Prince Sultan University, 2019
- **Trainer, Robot Operating System Training Program**, Prince Sultan University, March 2018
- **Trainer, Python for Data Science Training Program**, Prince Sultan University, Nov 2018
- **R&D Consultant for Gaitech Robotics, 2016 - 2020**
- **Trainer, Drone Pilot Training Program**, Prince Sultan University, 2017
- **Invited Trainer**, presenting a training session on “Skills and Tips to Write Research Proposal”, March 2012, ISET-Sfax, Tunisia.
- Coordinator and Responsible for Strategic Planning in IT Deanship at IMAMU, Consultant in Networking in the IT at IMAMU, 2011, Riyadh, Saudi Arabia.
My role consists in providing consultancy services to promote the IT infrastructure at IMAMU and define strategic plans. I am currently leading the effort of specifying the strategic plans of IT Deanship of IMAMU. I have also been the coordinator of “Yasser” evaluation for E-Government Services. I have also organized a workshop in the IT Deanship with professional IT experts, namely CIENA and MOBILY.
- **Invited Trainer**, presenting a training session on “Skills and Tips to Write Research Proposal for NPST”, Dec 2011, IMAMU, Riyadh, Saudi Arabia.
- **Invited Trainer**, presenting a training session on “Skills and Tips to Write Research Proposal for NPST”, Feb 2012, IMAMU, Riyadh, Saudi Arabia.
- **Selected Trainer**, course of “University Learning and Teaching”, ULT@IMSIU, 2011 (Trainer Certification Available), Riyadh, Saudi Arabia.
I have been selected by the Deanship of University Learning Development at IMAMU as trainer in the program University Learning and Teaching (ULT@IMAMU), approved by University of Wollongong (Australia), which is a professional development program for university teachers designed to enhance teaching effectiveness and provide an educational context for ongoing career development.
- **Consultancy for KACST**, specification of a Wireless Sensor Networks Platform for KACST Lab, 2010.

TEACHING ACTIVITIES

TABLE 1. TEACHING ACTIVITIES AFTER PHD.

Course	Title/Content	Period	Students	Hours
Prince Sultan University	Deep Learning and Neural Networks	2020-2021	Level 8	3 Credit Hours
	Internet of Things	2019	Level 8	3 Credit Hours
	Web Development	2016-2018	Level 8	3 Credit Hours
	Wireless Sensor Networks	2015	Level 7	3 Credit Hours
	Java Programming II	2012-now	Level 2	3 Credit Hours
	SOA and Web Services	2014-2015	Master	3 Credit Hours
	Introduction to Mobile Robots	2014-2015-2017-2018-2020-2021	Level 7	3 Credit Hours
	Software Engineering	Fall 2012	Level 4	3 Credit Hours
	Introduction to Databases	Fall 2012 Fall 2013 Spring 2014	Level 3	3 Credit Hours
PNU	Introduction to Computer Networks	Spring 2012	Level 3	3 Credit Hours
PNU	High Speed Networks	Fall 2011	Level 5	3 Credit Hours
Al-Imam Mohamed bin Saud University, College of Computer and Information Sciences	C++ Programming 1	Spring 2011	Level 1	4 Credit Hours
	C++ Programming 2 (Object Oriented Programming)	Spring 2011	Level 2	4 Credit Hours
	Seminars	Spring 2010, Fall 2009 Spring 2009	Undergraduate Level 7	1 Credit Hour

IUT Nancy Brabois University Nancy I FRANCE)	Simulation and Modeling	Spring 2010, Fall 2009 Spring 2009, Fall 2008 Spring 2008, Fall 2007	Undergraduate Level 8	4 Credit Hours
	Internet Applications	Fall 2007 Spring 2007, Fall 2006	Undergraduate Level 7	4 Credit Hours
	Database Management Systems (DBMS)	Fall 2007 Spring 2007, Fall 2006	Undergraduate Level 6	4 Credit Hours
	Java Programming	Sept 2004 → Feb 2005	Undergraduate (Bac+1)	Lectures: 40 H Labs : 48H
	Databases	Nov 2004 → Feb 2005	Undergraduate (Bac+2)	Lectures: 46 H
	Computer Networks	Feb 2005 → May 2005	Undergraduate (Bac+1)	Lectures + Labs: 44 H
	JDBC and Servlet Programming	Feb 2005 → May 2005	Undergraduate (Bac+2)	Labs : 16H

TABLE 2. TEACHING ACTIVITIES BEFORE PHD.

ENSEM-INPL (FRANCE)	Design and Analysis of Computer Systems	2001-2004	Graduate	Lectures: 6H Labs: 48 H
	Embedded Systems (CAN)	2001-2004	Graduate	Labs: 24 H
	Performance Evaluation of Discrete Event Systems	2001-2004	Graduate	Labs: 16H
	Others: Network Programming, Unix, C& JAVA and	2001-2004	Graduate	Labs and Lectures: 50 H
	Basic Programming	2001-2004	Undergraduate	Labs: 90H
ISIMS (TUNISIA)	Computer Networks	2003	Undergraduate	Lecture: 20H

PARTICIPATION TO TRAINING COURSE AND WORKSHOPS

- Higher Education Academic (HEA-UK) Training, 2016
- “University Teaching and Learning”,
duration 1 week , *organized by* Wolongong University, *location* Al-Imam University, 2011.
- “Workshop for specification of Strategic Plan of Al-Imam University”,
duration: 1 day, *organized by* Stanford Research Institute, *location:* Al-Imam University, 2010.
- “Quality Assurance and Accreditation Workshop”,
duration 1 week, *organizer:* NCAAA, *location:* Al-Imam University, 2010.
- Certification in “Project Management Training Course”,
duration: 4 weeks, *organizer:* XXX , *location:* Al-Imam University, 2009.
- “National workshop on Strategic Plan for Science and Technology”
Duration: 3 days, *organized by* KACST, *location:* Madareem Crown Hotel, 2007.

INTERNATIONAL RESEARCH WORKING GROUPS

Project: TinyOS ZigBee Working Group
Role: WG Chair.
Duration: open.
Website: http://www.tinyos.net/scoop/special/working_group_tinyos_zigbee

Project: open-LQE: A Framework for Benchmarking Link Quality Estimators In Wireless Sensor Networks

Role: Coordinator

Duration: open.

Website: <http://www.open-lqe.net/>

Project: ART-WiSe: **A**rchitecture for **R**ea**T**-Time communication in **W**ireless **S**ensor networks

Role: Scientific Coordinator.

Duration: open.

Website: <http://artwise.cister-isep.info/>

Supportive Institute: CISTER Research Unit, Porto, Portugal.

Project: open-ZB: Open Source Toolset for IEEE 802.15.4/ZigBee

Role: Scientific Coordinator.

Duration: open.

Website: <http://www.open-zb.net/>

Supportive Institute: CISTER Research Unit, Porto, Portugal.

Selected Publications

Patents

- [1] **Anis Koubaa**, “System and method for service-oriented cloud-based management of internet of drones”, US Patent, 2021-03-25, Publication of US20210088337A1 (**GRANTED**)
- [2] **Anis Koubaa**, Ebtehal Turki ALOTAIBI, Shahad Saleh ALQEFARI , “System, apparatus, and method for controlling unmanned aerial vehicles for search and rescue”, 2021-07-15
Publication of US20210216069A1 (**GRANTED**)
- [3] Azza Allouche, **Anis Koubaa**, Mohamed Khalgui, Omar Cheikhrouhou, Blockchain-based solution for internet of drones security and privacy, 2021-07-08, Publication of US20210209956A1(**GRANTED**)
- [4] LI, Zhiwu; KAROUI, Oussama; **KOUBAA, Anis**; KHALGUI, Mohamed; GUERFALA, Emna; TOVARD, Eduardo and WU, Naiqi, *SYSTEM AND METHOD FOR OPERATING A FOLLOWER VEHICLE IN A VEHICLE PLATOON*, US Patent, US 20170329348, 2018. (**GRANTED**)
- [5] LI, Zhiwu; KAROUI, Oussama; **KOUBAA, Anis**; KHALGUI, Mohamed; GUERFALA, Emna; TOVARD, Eduardo and WU, Naiqi, *SYSTEM AND METHOD FOR OPERATING A FOLLOWER VEHICLE IN A VEHICLE PLATOON*, US Patent, AU2016100586A4, 2016. (**GRANTED**)

Books

- [6] Mohamed Abdelkader (editor), Anis Koubaa (editor), *Unmanned Aerial Vehicles Applications: Challenges and Trends - Synthesis Lectures on Intelligent Technologies* (Hardback), 2023
- [7] Wadii Boulila, Jawad Ahmad, Anis Koubaa, Maha Driss, Imed Riadh Farah, *Decision Making and Security Risk Management for IoT Environments*, Springer, 2023
- [8] Anis Koubaa, Ahmad Tahar Azar, “Deep Learning for Unmanned Systems”, Springer Book Series “Studies in Computational Intelligence”, ISBN: 978-3-030-77939-9
- [9] Anis Koubaa, Ahmad Tahar Azar, *Unmanned Aerial Systems*. 1st Edition, Elsevier, 2021
- [10] Anis Koubaa (Editor), *Robot Operating System: The Complete Guide*, (Volume 5), Springer, Studies in Computational Intelligence, June 2020
- [11] Anis Koubaa (Editor), *Robot Operating System: The Complete Guide*, (Volume 4), Springer, Studies in Computational Intelligence, June 2019
- [12] Anis Koubaa et al. *Robot Path Planning and Cooperation: Foundations, Algorithms and Experimentations*. Vol. 772. Springer, 2018.
- [13] Anis Koubaa (Editor), *Robot Operating System: The Complete Guide*, (Volume 3), Springer, Studies in Computational Intelligence, June 2018
- [14] Anis Koubaa (Editor), *Robot Operating System: The Complete Guide*, (Volume 2), Special Focus on Unmanned Aerial Vehicles with ROS, Springer, Studies in Systems, Decision and Control, June 2017
- [15] Anis Koubaa (Editor), *Robot Operating System: The Complete Guide*, Springer, Studies in Systems, Decision and Control, Feb 2016.
- [16] Koubaa, Anis, Shakshuki, Elhadi (Eds.), *Robots and Sensor Clouds*, Studies in Systems, Decision and Control, Feb 2016.
- [17] Anis Koubaa, Jose Ramiro De Dios (Eds.), *Cooperative Robots and Sensor Networks* (2015 Edition) Springer, Studies in Computational Intelligence, 2015.
- [18] Koubaa, Anis; Khelil, Abdelmajid (Eds.) *Cooperative Robots and Sensor Networks*, Springer, Series Studies in Computational Intelligence, Vol. 507, 2014.
- [19] Koubaa, Anis; Khelil, Abdelmajid (Eds.) *Cooperative Robots and Sensor Networks*, Springer Series Studies in Computational Intelligence, Vol. 507, 2013.
- [20] Baccour, N., **Koubâa, A.**, Noda, C., Fotouhi, H., Alves, M., Youssef, H., Zúñiga, M.A., Boano, C.A., Römer, K., Puccinelli, D., Voigt, T., Mottola, L., *Radio Link Quality Estimation in Low-Power Wireless Networks*, SpringerBriefs in Cooperating Objects, 2013, XIII, 147 pages.

- [21] Tennina, S., **Koubâa, A.**, Daidone, R., Alves, M., Jurčík, P., Severino, R., Tiloca, M., Hauer, J.-H., Pereira, N., Dini, G., Bouroche, M., Tovar, E., “*IEEE 802.15.4 and ZigBee as Enabling Technologies for Low-Power Wireless Systems with Quality-of-Service Constraints*”, SpringerBriefs in Cooperating Objects, 2013, XIII, 169 pages.
- [22] **Anis Koubaa**, “Promoting Quality of Service in Wireless Sensor Networks”, Habilitation Thesis in Computer Science, National School of Engineering of Sfax (Tunisia), Sept 2011. *Peer-reviewed book*.
- [23] أنيس قوبعة، وسام بن فرج، شبكات الحساسات اللاسلكية: عمارتها وتطبيقاتها، جامعة الإمام، 2012.
- [24] **Anis Koubaa**, (Editor), Proceedings of the 7th Workshop on Real-Time Networks (RTN'08), Prague, Czech Republic, July 1, 2008, ISBN: 978-972-8688-59-2.

Book Chapters

- [25] Maram Alajlan, Anis Koubaa, ROSLink: Bridging ROS with the Internet, Robot Operating System: The Complete Guide (Volume 2), June 2017.
- [26] Maram Alajlan, Anis Koubaa, Writing Global Path Planners Plugins in ROS: A Tutorial, Robot Operating System: The Complete Guide, February 2016
- [27] Fatma Ellouze, Anis Koubâa, Habib Youssef, ROS Web Services: A Tutorial, in Robot Operating System: The Complete Guide, Springer, Studies in Systems, Decision and Control, Feb 2016.
- [28] Anis Koubaa, Mohamed-Foued Sriti, Hachemi Bennaceur, Adel Ammar, Yasir Javed, Maram Alajlan, Nada Al-Elaiwi, Mohamed Tounsi, and Elhadi Shakshuki, COROS: A Multi-Agent Software Architecture for Cooperative and Autonomous Service Robots, to appear in the Springer Book on Cooperative Robots and Sensor Networks (Edition 2015).
- [29] Maissa Ben Jamâa, Anis Koubaa, Nouha Baccour, Yasir Kayani, Khaled Al-Shalfan, Mohamed Jmaiel: EasyLoc: Plug-and-Play RSS-Based Localization in Wireless Sensor Networks. Cooperative Robots and Sensor Networks, Springer, 2014: 77-98
- [30] **A. Koubaa**, S. Trigui and I. Chaari. "Indoor Surveillance Application using Wireless Robots and Sensor Networks: Coordination and Path Planning". IGI Book, Mobile Ad Hoc Robots and Wireless Robotic Systems: Design and Implementation, IGI, 2012.
- [31] The CONET Consortium (co-author), *Cooperating Objects Roadmap 2009* 1st Edition Logos Verlag, June 2009. Main contributions: Sections 3.3, 6.1.3 and 6.2.3. Available for download at <http://www.cooperating-objects.eu/roadmap/download/>
- [32] **Anis Koubaa**, Mario Alves, Eduardo Tovar, *The IEEE 802.15.4: A Federating Technology for Time-Sensitive Wireless Sensor Networks*, invited submission in *Sensor Network and Configuration: Fundamentals, Techniques, Platforms, and Experiments*, (Elsevier), ISBN 987-3-540-37364-3, 2007.
- [33] Ye-Qiong SONG, **Anis Koubaa**, Jian LI, *Qualité de service temps réel selon le modèle (m,k)-firm*, à paraître dans l'ouvrage *Les Systèmes Temps Réels: Ordonnancement, Réseaux et Qualité de Service*, Vol. II, Traité I2C, (Hermès), 2006.

International Journals (selected)

- [34] Ammar, A., Koubaa, A., Benjdira, B., Najar, O., & Sibae, S. (2023). Prediction of Arabic Legal Rulings using Large Language Models. arXiv preprint arXiv:2310.10260, submitted to *Artificial Intelligence and Law (Submitted to Elsevier)*.
- [35] Ammar, A., Koubaa, & Boulila, W. (2023). ROSGPT: Next-Generation Human-Robot Interaction with ChatGPT and ROS. Submitted to *Engineering Applications of Artificial Intelligence (Elsevier)*.
- [36] AlHalawani, S., Benjdira, B., Ammar, A., Koubaa, A., & Ali, A. M. (2023). License Plate Super-Resolution Using Diffusion Models. *arXiv preprint arXiv:2309.12506*. Submitted to *Computers and Electrical Engineering (Elsevier)*.
- [37] Boulila, W., Alzahem, A., Koubaa, A., Benjdira, B., & Ammar, A. (2023). Early detection of red palm weevil infestations using deep learning classification of acoustic signals. *Computers and Electronics in Agriculture*, 212, 108154.
- [38] Koubaa, A., Ammar, A., Abdelkader, M., Alhabashi, Y. and Ghouti, L., (2023). AERO: AI-Enabled Remote Sensing Observation with Onboard Edge Computing in UAVs. *Remote Sensing*, 15(7), p.1873.
- [39] Ammar, A., Koubaa, A., Boulila, W., Benjdira, B., & Alhabashi, Y. (2023). A multi-stage deep-learning-based vehicle and license plate recognition system with real-time edge inference. *Sensors*, 23(4), 2120.

- [40] Koubaa, A., Qureshi, B., Ammar, A., Khan, Z., Boulila, W., & Ghouti, L. (2023). Humans are still better than chatgpt: Case of the iceextreme competition. *Heliyon*, 9(11), e21624
- [41] Ali, A. M., Benjdira, B., Koubaa, A., Boulila, W., & El-Shafai, W. (2023). TESR: Two-Stage Approach for Enhancement and Super-Resolution of Remote Sensing Images. *Remote Sensing*, 15(9), 2346.
- [42] Ali, A. M., Benjdira, B., Koubaa, A., El-Shafai, W., Khan, Z., & Boulila, W. (2023). Vision transformers in image restoration: A survey. *Sensors*, 23(5), 2385.
- [43] Benjdira, B., Koubaa, A., & Ali, A. M. (2023). ROSGPT_Vision: Commanding Robots Using Only Language Models' Prompts. Submitted to Elsevier.
- [44] Benjdira, B., Ali, A. M., & Koubaa, A. (2023). Guided Frequency Loss for Image Restoration. Submitted to Elsevier.
- [45] Khan, Z., Koubaa, A., Benjdira, B., & Boulila, W. (2023). A game theory approach for smart traffic management. *Computers and Electrical Engineering*, 110, 108825.
- [46] Alzahem, A., Boulila, W., Koubaa, A., Khan, Z. and Alturki, I., 2023. Improving satellite image classification accuracy using GAN-based data augmentation and vision transformers. *Earth Science Informatics*, pp.1-18.
- [47] Boulila, W., Alzahem, A., Koubaa, A., Benjdira, B. and Ammar, A., 2023. Early detection of red palm weevil infestations using deep learning classification of acoustic signals. *Computers and Electronics in Agriculture*, 212, p.108154.
- [48] Kaliappan, V.K., Gnanamurthy, S., Yahya, A., Samikannu, R., Babar, M., Qureshi, B. and Koubaa, A., 2023. Machine Learning Based Healthcare Service Dissemination Using Social Internet of Things and Cloud Architecture in Smart Cities. *Sustainability*, 15(6), p.5457.
- [49] Ullah, S., Ahmad, J., Khan, M.A., Alshehri, M.S., Boulila, W., Koubaa, A., Jan, S.U. and Ch, M.M.I., 2023. TNN-IDS: Transformer neural network-based intrusion detection system for MQTT-enabled IoT Networks. *Computer Networks*, 237, p.110072
- [50] Ullah, S., Boulila, W., Koubaa, A. and Ahmad, J., 2023. MAGRU-IDS: A Multi-Head Attention-based Gated Recurrent Unit for Intrusion Detection in IIoT Networks. *IEEE Access*.
- [51] Khan, Nauman, Rosli bin Salleh, Zahid Khan, Anis Koubaa, Mosab Hamdan, and Ahmed M. Abdelmoniem. "Ensuring reliable network operations and maintenance: The role of PMRF for switch maintenance and upgrades in SDN." *Journal of King Saud University-Computer and Information Sciences* 35, no. 10 (2023): 101809.
- [52] Anis Koubaa . GPT-4 vs. GPT-3. TechRxiv. April 07, 2023.
- [53] Atitallah, Nesrine, Omar Cheikhrouhou, Khaleel Mershad, Anis Koubaa, and Fahima Hajjej. "CERP: Cooperative and Efficient Routing Protocol for Wireless Sensor Networks." *Sensors* 23, no. 21 (2023): 8834.
- [54] Koubaa, Anis, Wadii Boulila, Lahouari Ghouti, Ayyub Alzahem, and Shahid Latif. "Exploring ChatGPT Capabilities and Limitations: A Survey." *IEEE Access* (2023).
- [55] Ali Shah, Farman, Kamran, Wadii Boulila, Anis Koubaa, and Nabil Mlaiki. "Numerical Solution of Advection-Diffusion Equation of Fractional Order Using Chebyshev Collocation Method." *Fractal and Fractional* 7, no. 10 (2023): 762.
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- [59] Koubaa, Anis. "Rosgpt: Next-generation human-robot interaction with chatgpt and ros." (2023).
Vasconcelos Filho, Enio, Jones Yudi, Mohamed Abdelkader, Anis Koubaa, and Eduardo Tovar. "RosDrive: An Open-Source ROS-Based Vehicular Simulator for STEM Control Systems Classes Tutorial." In *Robot Operating System (ROS) The Complete Reference (Volume 7)*, pp. 147-176. Cham: Springer International Publishing, 2023.
- [60] Derhab, Abdelouahid, Omar Cheikhrouhou, Azza Allouch, Anis Koubaa, Basit Qureshi, Mohamed Amine Ferrag, Leandros Maglaras, and Farrukh Aslam Khan. "Internet of drones security: Taxonomies, open issues, and future directions." *Vehicular Communications* 39 (2023): 100552.
- [61] Anas M. Ali, Bilel Benjdira, Anis Koubaa, Walid El-shafai, Zahid Khan, And Wadii Boulila, Vision Transformers in Image Restoration: A Survey, MDPI Sensors, Feb 2023

- [62] Adel Ammar, Anis Koubaa, Wadii Boulila, Bilel Benjdira, And Yasser Alhabashi, A Multi-Stage Deep-Learning-Based Vehicle and License Plate Recognition System with Real-Time Edge Inference, MDPI Sensors, Feb 2023
- [63] Nauman Khan, Rosli Bin Salleh, Anis Koubaa, Zahid Khan, Muhammad Khurram Khan, Ihsan Ali, Data Plane Failure and Its Recovery Techniques in SDN: A Systematic Literature Review, Journal Of King Saud University - Computer And Information Sciences, Impact Factor 8.84, Feb 2023
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