



Dr. Benrazek Ala-Eddine

Associate Professor & Researcher in Computer Science

15-12-1993 Male Single 1000 Lots N° 329, 24000 Guelma, Algeria Algerian
 alaeddine.benrazek@gmail.com (+213) 6 62 90 33 17 Exempt My Website
 ResearchGate Google Scholar Orcid LinkedIn Medlun Github


SHORT BIOGRAPHY

Dr. Ala-Eddine Benrazek is an Associate Professor in the Department of Computer Science at Ziane Achour University of Djelfa (ZAUD), Algeria. He serves as a Permanent Researcher in the GADM team at the Laboratory of Science and Information Technologies and Communication "LabSTIC", Guelma, Algeria. He received a Bachelor's degree (June 2015), a Master's degree (June 2017), and a Ph.D. degree (October 2021) from the University of Guelma, Algeria, all in Computer Science. His research interests include the Internet of Video Things (IoVT), Internet of Drones (IoD), Cloud-Fog Computing, Energy Optimization, Artificial Intelligence (AI), Data Management and Indexing, Multimedia Networking, Surveillance Systems and Communication.

EDUCATION

10-2022	Ph.D. degree in Computer Science LabSTIC Laboratory, 08 mai 1945 University Dissertation Title : " <i>Internet of Things: Analysis of suspicious behavior in a network of surveillance cameras</i> " (Dissertation.pdf) Advisor : Pr. Farou Brahim Sub-Advisor : Pr. Seridi Hamid Appreciation : Very Honorable, with Committee Praise	Guelma, Algeria
07-2017	Master's degree in Computer Science 08 Mai 1945 University Dissertation Title : " <i>An Ontology-based Intelligent System for Distributed Modeling of the Patient Record</i> " (Thesis.pdf) Advisor : Mr. Bourbia Riad Appreciation : Very Honorable	Guelma, Algeria
07-2015	Bachelor's degree in Computer Science 08 Mai 1945 University Dissertation Title : " <i>Social Learning Through MOOCs</i> " Advisor : Mr. Bourbia Riad Appreciation : With Honors	Guelma, Algeria

PROFESSIONAL POSITIONS

11-2023 – Present	Ziane Achour University Member of the Department's Scientific Committee Department of Computer Science, Ziane Achour University, Djelfa, Algeria.	Djelfa, Algeria
03-2023 – Present	Ziane Achour University Associated Professor Department of Computer Science, Ziane Achour University, Djelfa, Algeria.	Djelfa, Algeria
03-2022 – 03-2023	Ziane Achour University Assistant Professor Department of Computer Science, Ziane Achour University, Djelfa, Algeria.	Djelfa, Algeria
01-2022 – 03-2022	Yahia Fares University Assistant Professor Department of Mathematics and Computer Science, Yahia Fares University, Médéa, Algeria.	Medea, Algeria
10-2021 – Present	LabSTIC laboratory, 08 Mai 1945 University Permanent Researcher Permanent researcher in the GADM  team at the LabSTIC laboratory, Guelma, Algeria.	Guelma, Algeria
02-2019 – 02-2022	08 Mai 1945 University Part-time Assistant Professor Department of Computer Science, 08 Mai 1945 University, Guelma, Algeria.	Guelma, Algeria

TEACHING

08 mai 1945 University

09-2019 – 02-2022	Adjunct Instructor (Part-time position), Department of Computer Science Courses: <ul style="list-style-type: none">• Artificial Intelligence and Pattern Recognition (Practical work)• Compilation (Practical work)• Computer Security (Tutorials)• Networks and Servers Administration (Practical work)• Operating system (Tutorials)• Data analysis (Practical work)	Guelma, Algeria
-------------------	--	-----------------

Yahia Fares University

01-2022 – 03-2022	Assistant Professor, Department of Mathematics and Computer Science Courses: <ul style="list-style-type: none">• Parallel and Distributed System (Tutorials & Practical work)• Systems Engineering (Tutorials & Practical work)	Medea, Algeria
-------------------	---	----------------

Courses:

- Network Supervision & Quality of Service (Course & Practical work)
- Networks and Protocols (Course, Tutorial & Practical work)
- Network Design Methodology (Course & Tutorial)
- IP Routing & High-Speed Networks (Course, Tutorial & Practical work) [MATERIAL](#)
- Parallel & Grid Computing (Course, Tutorial & Practical work)

 **LANGUAGES**

Arabic
Native



French



English



 **RESEARCH INTEREST**

Big IoT Data Management and Indexing

- Data Bases
- Data Indexing
- Tree-Based Indexing
- Similarity Search
- k-NN Search

Surveillance Systems and Communication

- Object Detection
- Tracking Objects
- Multi-camera System
- Multimedia Networking
- Internet of Video Things

Autonomous Systems

- Cooperative Control
- Cooperative Systems
- Distributed Control
- Performance Optimization

 **PUBLICATIONS**

2024

[P2] Efficient k-NN Search in IoT Data: Overlap Optimization in Tree-Based Indexing Structures [↗](#)

arxiv

Authors: **Ala-Eddine Benrazek**, Zineddine Kouahla, Brahim Farou, Hamid Seridi, Ibtissem Kemouquette. **DOI:** arXiv:2408.16036

2023

[C18] Food Supply Chain Management in the era of Industry 4.0
IAM'23

Authors: Yehya BOUCHBOUT, **Ala-Eddine BENRAZEK**, Brahim FAROU, Hamid SERIDI

Conference: The 6th International Hybrid Conference on Informatics and Applied Mathematics (IAM'23), Guelma, Algeria.

2023

[C17] Smart Grid Data: Unraveling Insights from Processing to Applications
IAM'23

Authors: Brahmia Abdelbacet, **Ala-Eddine Benrazek**, Farou Brahim, Kouahla Zineddine, Seridi Hamid

Conference: The 6th International Hybrid Conference on Informatics and Applied Mathematics (IAM'23), Guelma, Algeria.

- 2023 **[J6] IoT-based efficient solution for optimal active smart camera selection in a tracking mission** [↗](#)
Internet of Things
 Authors: **Ala-Eddine Benrazek**, Brahim Farou, Zineddine Kouahla, Mohamed Amine Ferrag, Hamid Seridi. **DOI:** 10.1016/j.iot.2023.100941 [↗](#)
- 2023 **[J5] Tree-based indexing technique for efficient and real-time label retrieval in the object tracking system** [↗](#)
The Journal of Supercomputing
 Authors: **Ala-Eddine Benrazek**, Zineddine Kouahla, Brahim Farou, Hamid Seridi, Imane Allele, Mohamed Amine Ferrag. **DOI:** 10.1007/s11227-023-05478-8 [↗](#)
- 2022 **[C16] Design of an Intelligent Drone-based System for Automatic Forest Fire Detection and Response**
NWIA 2022
 Authors: **Benrazek Ala-Eddine**, Farou Brahim and Seridi Hamid
 Conference: 1st National Workshop on Intelligent Agriculture (NWIA 2022), Research Center for Agropastoralism CRAPast-Djelfa, Djelfa, Algeria
- 2022 **[C15] Cloud-based Distributed Indexing Mechanism for Big IoT Data Management IAM'22**
 Authors: **Benrazek Ala-Eddine**, Zineddine Kouahla, Farou Brahim, Seridi Hamid
 Conference: the 5th Conference on Informatics and Applied Mathematics (IAM'22), Guelma, Algeria
- 2022 **[P1] Introduction of a tree-based technique for efficient and real-time label retrieval in the object tracking system** [↗](#)
arxiv
 Authors: **Ala-Eddine Benrazek**, Zineddine Kouahla, Brahim Farou, Hamid Seridi, Imane Allele. **DOI:** 10.48550/arXiv.2205.15477 [↗](#)
- 2022 **[C14] Automatic labeling of tracked objects based on an indexing mechanism** [↗](#)
IEEE
 Authors: **Benrazek Ala-Eddine**, Allele Imane, Kouahla Zineddine, Farou Brahim and Seridi Hamid
 Conference: IEEE International Conference on Theoretical and Applicative Aspects of Computer Science, Skikda, Algeria. **DOI:** 10.1109/ICTAACS53298.2021.9715189 [↗](#)
- 2021 **[J4] A Survey on Big IoT Data Indexing: Potential Solutions, Recent Advancements, and Open Issues** [↗](#)
MDPI Future Internet
 Authors: Zineddine Kouahla, **Ala-Eddine Benrazek**, Mohamed Amine Ferrag, Brahim Farou, Hamid Seridi, Muhammet Kurulay, Adeel Anjum and Alia Asheralieva. **DOI:** 10.3390/fi14010019 [↗](#)
- 2021 **[C13] A Comprehensive Survey of Low-Power Embedded Systems: Memory Optimization Techniques and Memory Allocation**
NCASAM 2021
 Authors: Gattal Elhachemi and **Benrazek Ala-Eddine**
 Conference: 1st National Conference on Applied Science and Advanced Materials (NCASAM 2021), ENSET-Skikda, Sekikda, Algeria.
- 2021 **[C12] Memory Optimization Problem in Embedded Systems: A Survey**
IAM'2021
 Authors: Gattal Elhachemi and **Benrazek Ala-Eddine**

Conference: 4th Conference on Informatics and Applied Mathematics (IAM'2021), Guelma, Algeria, 2021.

2021

[C11] A study of Lagrangian Relaxation and Dantzig-Wolfe Decompositions for the Generalized Assignment Problem [↗](#)

IEEE

Authors: Gattal Elhachemi and **Benrazek Ala-Eddine**

Conference: 5th IEEE International Conference on Networking and Advanced Systems (ICNAS 2021), Annaba, Algeria. **DOI:** 10.1109/ICNAS53565.2021.9628940

[↗](#)

2021

[C10] A Cost-Effective Space Partitioning Approach for IOT Data Indexing and Retrieval [↗](#)

IEEE

Authors: Ibtissem Kemouguette, Kouahla Zineddine, **Benrazek Ala-Eddine**, Farou Brahim and Seridi Hamid

Conference: 5th IEEE International Conference on Networking and Advanced Systems, Annaba, Algeria. **DOI:** 10.1109/ICNAS53565.2021.9628904 [↗](#)

2020

[J3] An Efficient Indexing for IoT Massive Data based on Cloud-Fog Computing [↗](#)
WILEY Transactions on Emerging Telecommunications Technologies (ETT)

Authors: **Ala-Eddine Benrazek**, Kouahla Zinedine, Farou Brahim, Mohamed Amine Ferrag, Seridi Hamid and Kurulay Muhammet. **DOI:** 10.1002/ett.3868 [↗](#)

2019

[J2] Ascending Hierarchical Classification for Camera Clustering Based on FoV Overlaps for WMSN [↗](#)

IET Wireless Sensor Systems (WILEY)

Authors: **Ala-Eddine Benrazek**, Farou Brahim, Seridi Hamid, Kouahla Zinedine and Kurulay Muhammet. **DOI:** 10.1049/iet-wss.2019.0030 [↗](#)

2019

[C9] Using a bio inspired approach to improve UAVs vision coverage [↗](#)
CITCS'2019

Authors: Wafa Nebili, **Ala-Eddine Benrazek**, Muhammet Kurulay, Brahim Farou and Mohamed Amine Ferrag

Conference: 1st International Conference on Innovative Trends in Computer Science (CITCS'2019), Guelma, Algeria.

2019

[C8] A Scalable Index for Internet-of-Things [↗](#)
IAM'2019

Authors: **Ala-Eddine Benrazek**, Kouahla Zineddine, Farou Brahim and Seridi Hamid

Conference: 2nd Conference on Informatics and Applied Mathematics IAM'2019, Guelma, Algeria. **DOI:** 10.13140/RG.2.2.20177.66403 [↗](#)

2018

[J1] Efficient Camera Clustering Method Based on Overlapping FoVs for WMSNs [↗](#)

International Journal of Informatics and Applied Mathematic

Authors: **Ala-Eddine Benrazek**, Farou Brahim, and Kurulay Muhammet

2018

[C7] A Method of Grouping Cameras in a Video Surveillance System Network [↗](#)
SaCoNeT 2018

Authors: **Ala-Eddine Benrazek**, Brahim Farou, Hamid Seridi

Conference: 7th IEEE International Conference on Smart Communication in Network Technologies (SaCoNeT 2018), El-Ouad, Algeria. **DOI:** 10.13140/RG.2.2.16822.22085 [↗](#)

- 2018 **[C6] A New Method of Grouping Cameras based on Overlapping Visual Fields in Wireless Multimedia Sensor Networks** [↗](#)
IAM'18
Authors: **Ala-Eddine Benrazek**, Brahim Farou, Hamid Seridi
Conference: 1st Conference on Informatics and Applied Mathematics (IAM'2018), Guelma, Algeria.
- 2017 **[C5] Agent-Based Modeling of the Hospital MIS to Enhance Patient Care** [↗](#)
WCRESO 2017
Authors: Riad Bourbia, Lynda Dib, **Ala-Eddine Benrazek**
Conference: World Congress on Renewable Energy and Sustainable Computing (WCRESO'17), Hammamet, Tunisia.
- 2017 **[C4] A patient monitoring system based on agent technology under JADE** [↗](#)
IEEE
Authors: Bourbia Riad, Lynda Dib, and **Ala-Eddine Benrazek**
Conference: IEEE International Workshop on Complex Systems and Networks (IWCSN), Doha, Qatar. **DOI:** 10.1109/IWCSN.2017.8276538 [↗](#)
- 2016 **[C3] An agent-based architecture for a distributed MIS** [↗](#)
IEEE
Authors: Bourbia, Riad, Lynda Dib, and **Ala-Eddine Benrazek**
Conference: 2016 IEEE/ACS 13th International Conference of Computer Systems and Applications (AICCSA), Agadir, Morocco. **DOI:** 10.1109/AICCSA.2016.7945758 [↗](#)
- 2016 **[C2] An Intelligent System for Patient Data Sharing Under JADE Platform**
AMINA'16
Authors: Riad Bourbia, Lynda Dib, **Ala-Eddine Benrazek**, Gueroui Fatima Zahra, Berkani Hayet
Conference: 8ème Workshop AMINA "Application Médicales de l'informatique: Nouvelles Approches", Monastir, Tunisia,
- 2015 **[C1] Social learning through MOOCs** [↗](#)
ICCES'2015
Authors: Riad Bourbia, Ali Seridi, Noor El houda Nouar, **Ala-Eddine Benrazek**.
Conference: International Conference of Computing for Engineering and Sciences (ICCES'2015), Istanbul, Turkey

PROJECTS

- 2018 - 2021 **Research Project (CNEPRU)**
Design and Development of an Intelligent and Secure Video Surveillance System
Code : B*01520130020 / C00L07UN240120130004
Grade: Membre

SCIENTIFIC ACTIVITIES

- 12-2023 **Program Committee** Guelma, Algeria
6th Conference on Informatics and Applied Mathematics
IAM'2023
 University of 08 Mai 1945 Guelma – Algeria.

12-2023	Organization Committee 6th Conference on Informatics and Applied Mathematics IAM'2023 University of 08 Mai 1945 Guelma – Algeria.	Guelma, Algeria
12-2021	Organization Committee 4th Conference on Informatics and Applied Mathematics IAM'2021 University of 08 Mai 1945 Guelma – Algeria.	Guelma, Algeria
12-2021	Program Committee 4th Conference on Informatics and Applied Mathematics IAM'2021 University of 08 Mai 1945 Guelma – Algeria.	Guelma, Algeria
11-2019	Organization Committee Conference on Innovative Trends in Computer Science (CITCS'2019) University of 08 Mai 1945 Guelma – Algeria	Guelma, Algeria
06-2019	Organization Committee 2nd Conference on Informatics and Applied Mathematics IAM'2019 University of 08 Mai 1945 Guelma – Algeria.	Guelma, Algeria



SUPERVISION (PH.D. STUDENTS)

2023 – Present	Food Supply Fleet Management: An Intelligent Approach to Perishable Food Safety based on IoT solutions -Co-Supervisor- LabSTIC laboratory, Guelma University <i>Candidate: Yahia Bouchbout</i>
----------------	--



SUPERVISION (MASTER'S STUDENTS)

12-2023 – 07-2024	IoT-Based Real-Time Solution for the Analysis and Prediction of Heart Rhythm Abnormalities	ZAUD, Algeria
12-2023 – 07-2024	Enhancing Big IoT Data Indexing with Edge-Based Data Traceability	ZAUD, Algeria
12-2023 – 07-2024	Parallel KNN Search in BCCF-Tree	ZAUD, Algeria
01-2022 – 07-2023	A Study of Drone Coverage Path Planning Algorithms	ZAUD, Algeria
01-2022 – 06-2023	AORIST : Aero f0restRy guidance SysTem	ZAUD, Algeria
01-2022 – 06-2023	Distributed and Parallel BCCF-tree for Big IoT Data Indexing based on Cloud-Fog Computing	ZAUD, Algeria
01-2022 – 07-2023	Cooperative and Distributed Multi-UAV for Effective Real-Time Discovery Mission in Post-Disaster Situations	ZAUD, Algeria



EXAMINER

06-2022	Vehicle detection, counting and speed estimation for traffic monitoring based on image processing	ZAUD, Algeria
---------	--	---------------

06-2022	Design and implementation of a pointing system based on image processing	ZAUD, Algeria
06-2022	Color image encryption and decryption based on multiple chaotic maps	ZAUD, Algeria

COLLABORATORS

Pr. Farou Brahim, Full Professor of Computer Science, 08 Mai 1945 University, Guelma, Algeria.
farou.brahim@univ-guelma.dz

Pr. Seridi Hamid, Full Professor of Computer Science, 08 Mai 1945 University, Guelma, Algeria.
seridi.hamid@univ-guelma.dz

Pr. Kouahla Zineddine, Full Professor of Computer Science, 08 Mai 1945 University, Guelma, Algeria.
kouahla.zineddine@univ-guelma.dz

Dr. Mohamed Amine Ferrag (Ph.D., HDR), Lead Researcher with AI & Digital Science Research Center, Technology Innovation Institute, Abu Dhabi, United Arab Emirates
mohamed.ferrag@tii.ae

Pr. Muhammet Kurulay (Full Professor), Full Professor of Mathematical Engineering, Yıldız Technical University, Istanbul, Turkey.
mkurulay@yildiz.edu.tr

Dr. Adeel Anjum, Director and Associate Professor at the Institute of Information Technology, Quaid-i-Azam University, Islamabad, Pakistan.
adeelanjum2001@hotmail.com

Dr. Alia Asheralieva, Assistant Professor on Computer Science & Engineering, School of Computer Science, Loughborough University, UK.
asheralievaa@sustech.edu.cn

</> PROGRAMMING SKILLS

JAVA

Multi-agent system, JADE,
Desktop App

Python

Data Structure, Computer
Vision, Desktop App, Machine
Learning

Matlab

Data Analysis, Data
Visualization (DataViz)

PHP, MySQL, HTML, CSS

Dynamic website, Database

PackTracker

CISCO

Microcontroller

Arduino and Raspberry pi
(Machine Learning and
Computer Vision)

CERTIFICATES

CCNA Routing and Communication: Introduction to networks

Course completed
Exam passed
November 2014

CCNA Exploration: Routing Protocols and Concepts

Course completed
Exam passed
March 2015

CCNA Exploration: LAN Switching and Wireless

Course completed
Exam passed
May 2015

CCNA Exploration: Accessing the WAN

Course completed
Exam passed
June 2015