



Dr. Zahra KODIA
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Research laboratory SMART-LAB

Personal Information

Full name : Zahra Kodia

Birth date : 22 September 1983

Nationality : Tunisian

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Status : Associate professor, ISG Tunis

Specialty: Computer Science

Web Sites:

[WebOfScience-Zahra-Kodia](#)

[Scholar-Zahra-Kodia](#)

[Scopus-Zahra-Kodia](#)

[ResearchGate-Zahra-Kodia](#)

[Orcid – Zahra Kodia](#)

Professional experience

▪ Educational activities

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| 2015 – present | Associate Professor at the Institut Supérieur de Gestion de Tunis - University of Tunis |
| 2011 – 2015 | Assistant Professor at the Ecole Supérieure de Commerce de Tunis - University of Manouba |

▪ Administrative and research activities

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|-----------------------|---|
| 2021 – present | Head of the Data Science for Business master's program at the Institut Supérieur de Gestion de Tunis - University of Tunis |
| 2021 – present | Elected member of the Scientific Advisory Board of the Institut Supérieur de Gestion de Tunis - University of Tunis |
| 2017 – 2020 | Director of internships at the Institut Supérieur de Gestion de Tunis - University of Tunis |
| 2018 – present | Member of the executive board of the Strategies for Modeling and Artificial Intelligence (SMART-LAB) research laboratory at the Institut Supérieur de Gestion de Tunis - University of Tunis |

- 2008 - present** Member of the SMART-LAB research laboratory at the Institut Supérieur de Gestion de Tunis - University of Tunis
- Participation in the supervision of 5 doctoral theses (1 defended and 5 in progress);
 - Supervision of 20 research master's degrees, including 3 in progress;
 - Supervision of 10 professional master's degrees, including 5 in progress.

Education and qualifications

- Decembre 2022** Habilitation in Management – Computer Science
Title: INSEG²-DIMA: INtelligent Sytems for financE, marketinG and manaGment DecIsion MAKing.
University of Tunis - Institut Supérieur de Gestion de Tunis
- December 2014** PhD in Computer Science
Title: Multi-agent modeling and simulation of cognitive aspects in the stock market.
University of Mannouba - National School of Computer Sciences of Tunis
- June 2008** Master's degree in Software Engineering and Decision Support - Artificial Intelligence
Title: Multi-agent modeling and simulation of stock market-related socio-economic phenomena.
University of Mannouba - National School of Computer Sciences of Tunis
- June 2006** Bachelor's degree in Computer Science Applied to Management.
University of Tunis - Tunis Higher Institute of Management

Certifications & Training

- Train-the-Trainer: Facilitating Face-to-Face Learning (FFF-O), 2021, IFC
- Microsoft Certification: MTA Programming using Python, 2019, Université de Tunis
- Microsoft Certification: MTA Database Administration Fundamentals, 2019, University of Tunis
- Training the trainers: Using the resources of the Imagine Academy platform, October 2016, Université de Tunis
- Pedagogical training: Tutoring and virtual teaching, 2012, Université de la Mannouba
- Pedagogical training: Active pedagogy, 2007-2008, University of Tunis

Research topics

- Multi-agent simulation and cognitive modeling
- Stock market analysis
- Artificial Intelligence in Finance
- Business Process Management (BPMN & DMN)
- Sentiment analysis
- Recommendation system
- Fatigue detection

Article Review Activities

• Review

- Future Generation Computer Systems, *IF* (2022) = 7.5
- Cogent Engineering, *IF* (2022) = 1.9
- Journal of Engineering Research and Sciences, *Indexed by ResearchGate, Crossref, Google scholar*

• Conference

- IBI'24 : First edition of Intelligence In Business And Industry Conference, Gammarth, Tunisia, 1,2 Février, 2024
- CoDIT 2024 : IEEE/IFAC 10th 2024 International Conference on Control, Decision and Information Technologies,

Scientific Publications

• Review papers

[J5] Jihene Latrech, Zahra Kodia, Nadia Ben Azzouna, (2024) **CoDFi-DL: a hybrid recommender system combining enhanced collaborative and demographic filtering based on deep learning**. The Journal of Supercomputing, 80, 1160–1182. <https://doi.org/10.1007/s11227-023-05519-2>

Metric : IF 2022 = 3.3 ; Quartile : Q2 (Computer Science)

[J4] Riadh Ghlala, Zahra Kodia Aouina, Lamjed Ben Said. (2023) **Using MCDM and FaaS in Automating the Eligibility of Business Rules in the Decision-Making Process**. International Arab Journal of Information Technology. 20(2), March, 2023. <https://doi.org/10.34028/iajit/20/2/9>

Metric : IF 2022 = 1.2 ; Quartile : Q2 (Computer Science)

[J3] Zahra Fathalli, Zahra Kodia Aouina, Lamjed Ben Said. (2022) **Stock Market Prediction of NIFTY 50 Index Applying Machine Learning Techniques**. Applied Artificial Intelligence, 36(1), 2111134, Taylor & Francis publisher, <https://doi.org/10.1080/08839514.2022.2111134>

Metric : IF 2022 = 2.8 ; Quartile : Q2 (Computer Science)

[J2] Riadh Ghlala, Zahra Kodia Aouina, Lamjed Ben Said. (2022) **Enhancing Decision-making Consistency in Business process using a Rule-Based Approach: Case of BI Process**. Journal of Telecommunications and the Digital Economy, 10(2), 44–61. <https://doi.org/10.18080/jtde.v10n2.539>

Indexé Scopus ; SJR 2022 = 0.19 ; Quartile : Q3 (Computer Science)

[J1] Zahra Kodia, Lamjed Ben Said et Khaled Ghédira. (2011) **Simulation comportementale à base d'agents de la dynamique du marché boursier: Modèle cognitif de l'investisseur**. Revue d'Intelligence Artificielle. RSTI – RIA 25/2011 Simulation sociale orientée agent, volume 25(1), pp 83-107, doi:10.3166/ria.25.83-107, Mars 2011

Indexé Scopus ; SJR 2022= 0.299, Quartile : Q3(Computer Science)

• Chapter book

[CH1] Lamjed Ben Said, Zahra Kodia et Khaled Ghédira (2014). **Design Of Cognitive Investor Making Decision For An Artificial Stock Market Simulation: A Behavior-based Approach**. Soft Computing in Capital Market: Research and Methods of Computational Finance for Measuring Risk of Financial Instruments, Brown Walker Press (FL), 2014, 41-56

• International Conferences

[C14] Zakia Zouaghia, Zahra Kodia Aouina, Lamjed Ben Said. (2023) **Stock Movement Prediction Based On Technical Indicators Applying Hybrid Machine Learning Models.**, , 2023 International Symposium on Networks, Computers and Communications (ISNCC), Doha, Qatar, pp. 1- 4, doi: 10.1109/ISNCC58260.2023.10323971

CORE 2023 : Rank C

[C13] Zakia Zouaghia, Zahra Kodia Aouina, Lamjed Ben Said, (2023) **Hybrid Machine Learning Model for Predicting NASDAQ Composite Index**. "2023 International Symposium on Networks, Computers and Communications (ISNCC), Doha, Qatar, pp. 1-6, doi: 10.1109/ISNCC58260.2023.10323903

CORE 2023 : Rank C

[C12] Wiem BenGhozzi, Abir Chaabani, Zahra Kodia, Lamjed Ben Said. (2023) **DeepCNN-DTI: A Deep Learning Model for Detecting Drug-Target Interactions.**, 9TH International Conference on Control, Decision and Information, CODIT IEEE, Rome, Italy, 2023, pp. 1677-1682, doi: 10.1109/CoDIT58514.2023.10284177

CORE 2023 : Rank C

[C11] Safa Selmene, Zahra Kodia. (2020) **Recommender System Based on User's Tweets Sentiment Analysis**. In *2020 The 4th International Conference on E-commerce, E-Business and E-Government ICEEG* (pp. 96-102). <https://doi.org/10.1145/3409929.3414744>

Indexed by Ei Scopus, compendex, ACM and DBLP

[C10] Riadh Ghlala, Zahra Kodia Aouina, Lamjed Ben Said. (2017) **MC-DMN: Meeting MCDM with DMN Involving Multi-criteria Decision-Making in Business Process**. The 17th International Conference on Computational Science and Its Applications. ICCSA'17, (pp.3-16). Springer, Cham. DOI: 10.1007/978-3-319-62407-5_1

CORE 2023 : Rank C

[C9] Riadh Ghlala, Zahra Kodia Aouina, Lamjed Ben Said. (2017) **Multi-agent BPMN decision footprint towards decision collaboration along distributed bi process**. Chapter in Smart Innovation, May 2017, Agent and Multi-Agent Systems: Technology and Applications, KES-AMSTA 2017. Smart Innovation, Systems and Technologies, vol 74 pp.234-244. Springer, Cham. DOI: 10.1007/978-3-319-59394-4_23

CORE 2023 : Rank C

[C8] Riadh Ghlala, Zahra Kodia Aouina, Lamjed Ben Said. (2016) **Decision-making harmonization in business process : Using NoSQL databases for decision rules modelling and serialization**. In the proceeding of 4th International Conference on Control Engineering & Information Technology (CEIT) December 2016. IEEE, DOI: 10.1109/CEIT.2016.7929078

Indexed by IEEE Explore

[C7] Riadh Ghlala, Zahra Kodia Aouina, Lamjed Ben Said (2016) **BPMN Decision Footprint: Towards Decision Harmony Along BI Process.**: In the proceeding of ICIST 2016 Information and Software Technologies. Communications in Computer and Information Science, vol 639. Springer, pages 269-284, 2016, Cham. DOI: 10.1007/978-3-319-46254-7_22

Indexed by DBLP and ACM

[C6] Zahra Kodia, Lamjed Ben Said et Khaled Ghédira (2010). **Stylized facts study through a multi-agent based simulation of an artificial stock market.**, In: Li Calzi, M., Milone, L., Pellizzari, P. (eds) Progress in Artificial Economics, AE, 2010. Lecture Notes in Economics and Mathematical Systems, vol 645. pages 27-38, Springer, Berlin, Heidelberg. https://doi.org/10.1007/978-3-642-13947-5_3

[C5] Zahra Kodia, Lamjed Ben Said et Khaled Ghédira (2010). **A Study of Stock Market Trading Behavior and Social Interactions through a Multi Agent Based Simulation**. In Agent and Multi-Agent Systems: Technologies and

Applications: 4th KES International Symposium, KES-AMSTA 2010, Gdynia, Poland, June 23-25, 2010, Proceedings. Part II 4 (pp. 302-311). Springer Berlin Heidelberg. https://doi.org/10.1007/978-3-642-13541-5_31

[C4] Zahra Kodia, Lamjed Ben Said et Khaled Ghédira (2010). **A multi-agent based pricing: a virtual stock market simulation.**, 8^{ème} ENIM IFAC Conférence Internationale de Modélisation et Simulation (MOSIM'2010), Mai 2010. Hammamet, Tunisia

[C3] Zahra Kodia, Lamjed Ben Said et Khaled Ghédira (2010). **Towards a new cognitive modeling approach for multi-agent based simulation of stock market dynamics**, , *Proc. of 9th International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2010)*, 2010. pp. 1565-1566, Toronto Canada
URI: <https://dl.acm.org/citation.cfm?id=1838483>
CORE 2023 : Rank A*

[C2] Zahra Kodia, Lamjed Ben Said et Khaled Ghédira (2009). **SiSMar : Social Multi-agent Based Simulation of stock market**, *Proc. of 8th Int. Conf. on Autonomous Agents and Multiagent Systems (AAMAS 2009)*, Decker, Sichman, Sierra and Castelfranchi (eds.), May, 10–15, 2009, Budapest, Hungary, pp. 1345, 1346.
ISBN: [978-161567334-6](https://doi.org/10.1007/978-3-642-00487-2_10)
CORE 2023 : Rank A*

[C1] Zahra kodia et Lamjed Ben Said (2009) **Multi-agent Simulation of Investor Cognitive Behavior in Stock Market.**, In *7th International Conference on Practical Applications of Agents and Multi-Agent Systems (PAAMS 2009)* (pp. 90-99). Springer Berlin Heidelberg. https://doi.org/10.1007/978-3-642-00487-2_10
CORE 2021 : Rank B / CORE 2023 : National, Requested B

- National Conferences

[CN3] Jihene Latrech, Zahra Kodia, Nadia Ben Azzouna (2024) **Un système de recommandation hybride combinant le filtrage collaboratif et démographique basé sur l'apprentissage profond.**, Intelligence In Business And Industry Conference, 2024, Université De Tunis, Tunis, Tunisia

[CN2] Zakia Zouaghia, Zahra Kodia et Lamjed Ben Said (2024) **Modèle hybride d'apprentissage automatique pour prédire l'indice boursier de NASDAQ Composite.**, Intelligence in Business and Industry conference, Février 2024, Université de Tunis, Tunis, Tunisia

[CN1] Wiem Ben Ghazzi, Zahra Kodia, Nadia Ben Azzouna (2024) **Real-Time Fatigue Monitoring.**, Intelligence in Business and Industry conference, Février 2024, Université de Tunis, Tunis, Tunisia

Teaching responsibilities

- Head of the DSB professional master's program (ISG Tunis) from June 2021
- Responsible for IBM certification at ISG as of June 2021
- Responsible for preparing the DSB Master's accreditation file for the 2022-2026 period
- President of the deliberations committee for the third-year Bachelor's degree, during the 2020-2021 academic year.

Participation in pedagogical committees and boards

- Elected member of the Scientific Council of the Institut Supérieur de Gestion de Tunis - term 2021-2024
- Member of (1) research master's, (2) professional master's and (3) PFE committees since 2016
- Member of the recruitment committee for contract teaching staff at Université de Tunis, Discipline Informatique de Gestion for the 2018/2019 and 2019/2020 academic years.
- Participation in the Institut Supérieur de Gestion de Tunis accreditation project since February 2024 as a member of the "Human Resources - University Teachers" and "Curriculum" teams, corresponding to AACSB standards 3 and 4 respectively.
- Member of the Institut Supérieur de Gestion de Tunis self-evaluation committee since February 2021
- Member of the Executive Committee (Training Domain) of the Institut Supérieur de Gestion's PAQ-DGSE (Training and Employability Domain) since January 2021.
- Member of the committee responsible for preparing the accreditation files for the three courses (Business Intelligence, Business Information Systems, E-Business) of the Licence Nationale en Informatique de Gestion at ISG Tunis in 2019.
- Member of the steering committee for the Data Science for Business professional master's degree since 2018
- Participation in the preparation of the DSB master's accreditation file for the 2018-2022 and 2022-2026

Participation in conferences and scientific meetings

- Session Chair (Session 1: Business) at the IBI'24 International Conference, University of Tunis (Intelligence In Business And Industry), February 2024, Gammarth, Tunisia
- Member of the program committee of the international conference IBI'24, University of Tunis (Intelligence In Business And Industry), February 2024, Gammarth, Tunisia
- Session Chair (Business Informatics) during the third edition of the ISGT-ESSECT-TBS doctoral days at the University of Tunis, TBS, January 2024

- Participation in the first and second editions of the ISGT-ESSECT-TBS doctoral days in March 2020, December 2021, University of Tunis
- Participation in the RIA competition: Research-Innovation-Action in 2021, Institut Supérieur de Gestion de Tunis - University of Tunis
- Participation in SMART-LAB research laboratory scientific days, since 2008
- Member of the organizing committee for the SIMEG 10 international symposium on "IT security in M/E-Government: issues and challenges", 2010, Hammamet, Tunisia
- Member of the organizing committee for the Ecol'IA conference "Learning and data mining: from theory to practice", 2008, Hammamet, Tunisia

Linguistic skills

Arabic mother tongue

Fluent French

Fluent English