

Haithem MEZNI

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Work experience

- 2022–present **Associate Professor**, Jendouba University, Tunisia.
- 2018–2025 **Assistant Professor**, Taibah University, KSA.
- 2013–2018 **Assistant Professor**, Jendouba University, Tunisia.
- 2008–2013 **Assistant Professor**, Higher Institute of Technological Studies, Tunisia.
- 2006–2008 **Secondary School Teacher**, Hedi Ben Hsine College, Tunisia.
- 2005–2006 **Lecturer of Computer Science**, Jendouba University, Tunisia.

Academic Service

With Taibah University, Applied College

- 2022–2023 **Academic affairs' committee member**.
- 2019–2022 **Scientific research committee member**.
- 2022–2023 **Educational programs' committee**.
- 2022 **Diploma proposal entitled "Data science"**.

With Jendouba University

- 2014–2017 **Member of the scientific council**.
- 2015–2017 **Head of the examination board for the 2nd and 3rd levels**.
- 2012–2013 **Coordinator of the National University Center for Scientific and Technical Documentation**.
- 2012 **Development of a credit management system for the department of computer science**.
- 2011–2013 **Member of Internship and Training Unit**.
- 2010 **Master's proposal entitled "Development of Information Systems"**.

Teaching Activities

Selected courses with Jendouba University, Tunisia

- 2005–2025 **Graduate courses**, Internet of Things, Mobile programming, Service-oriented architectures, Databases, Database administration, Distributed systems, Database development environments, Algorithmic and data structures, Object-oriented programming, Compilation, Information system design methodologies, C Programming, C2i Certification, Artificial Intelligence, Database management systems, Website management, Operating systems, Computer security, Distributed architectures and application servers, Human-Computer Interaction, Multimedia development, Event-based programming, Software architectures, Algorithmic and programming, Object-oriented programming.
- 2005–2025 **Postgraduate courses**, Intelligent methods and reasoning, Multi-agent systems, Distributed systems, Service-oriented architecture, Database administration, Application servers and IDE, Large-scale databases, Web Intelligence.

Selected courses with Taibah University, KSA

2018–2025 **Graduate courses**, *Introduction to Web programming, Web administration, Network operating systems, Multimedia, Database management, System analysis and design, Internet applications 1, Programming 2, Cybersecurity risk analysis, Cybersecurity design principles, Introduction to programming.*

Selected courses with Higher Institute of Technological Studies (ISET), Tunisia

2010–2013 **BSc**, *Human–Computer Interaction, Multimedia development, Event-based programming, Software architectures, Algorithmic and programming, Object-oriented programming.*

Selected courses with International University in Tunis (UIT), Tunisia

2014–2017 **Postgraduate**, *Tools for distributed applications, Client-server architectures, XML and Web Technologies, Software development.*

Selected courses with Central University in Tunis (POLYTECH), Tunisia

2016–2017 **Postgraduate**, *MTA cloud fundamentals, Large-scale data processing.*

Students supervising

2016–2022 **PhD**, *3 students.*

2013–2018 **Master degree**, *14 students.*

2013–2017 **Professional Master degree**, *8 students.*

2007–2017 **Graduation projects**, *> 60 students.*

Research activities

Research profile

Affiliation, *SMART Lab.*

Research interests, *Service-Oriented Computing, Cloud computing, Recommender systems, Agentic AI.*

Applications, *Big data-centric services, Business processes, Healthcare services, Smart services, Drone as a Service, Transportation as a Service, IoT services.*

Active research projects

Accepted 2025 **Project 8**, *Towards an Explainable AI and Blockchain-Enhanced Framework for Privacy Preservation in IoT Networks*, Cyber-security Research and Innovation Pioneer Grants Initiative, National Program for Research, Development, and Innovation (RDI).

Started 2024 **Project 7**, *Connected Vehicle as a Service: An Edge/Cloud System for the Resilient Scheduling of Multi-modal Transportation Services in Smart Urban Networks* [Grant No. RPFAP-77-1445, PNU, KSA].

Started 2024 **Project 6**, *A framework for the predictive scheduling and routing of drone delivery services* [Grant No. RPFAP-78-1445, PNU, KSA].

Completed projects

Started 2023 **Project 5**, *A Recommender System for Smart Healthcare Services in Virtual Hospitals* [Grant No. 44- PRFA-P- 90, PNU, KSA].

Started 2022 **Project 4**, *Multi-cloud Management Platform and a Search Engine for Smart City Services* [Grant No. RI-44-0878, PNU, KSA].

2023–2024 **Project 3**, *A framework for the recommendation of smart transportation services* [Grant No. 44-PRFA-P- 76, PNU, KSA].

2023–2024 **Project 2**, *A customer-oriented cloud platform for the scheduling and management of drone delivery services* [Grant No. 44- PRFA-P- 91, PNU, KSA].

2020–2023 **Project 1**, *SmartWater - an Intelligent Service-based Framework to Support Real-Time Water Monitoring in IoT Environments* [Grant No. 442/210, Taibah University, KSA].

Projects under arbitration

Pending **Project PNU3**, *An Agentic AI Powered Framework for the Explainable Orchestration of Smart Workflow Applications* [PNU-KSA, 2025].

Pending **Project PNU2**, *Trust Management System for smart applications in Intelligent Cyber-physical Systems* [PNU-KSA, 2025].

Pending **Project PNU1**, *SmartEdu4All - Towards an Intelligent Cyber-Physical System for Smart Educational Applications* [PNU-KSA, 2025].

Pending **Project UA2**, *Drone-as-a-Service: An Edge/Cloud Platform for the Intelligent Management of Drone Services in Smart Cities* [RDIA-KSA, 2024].

Pending **Project UA1**, *An Edge/Cloud Explainable Federated Recommender for Smart Obesity Care* [RDIA-KSA, 2024].

Organized scientific events

2025 **Program Committee**, *26th International Conference on Web Information Systems Engineering - WISE 2025*.

2025 **Guest editor**, *Special Issue on Web for Good*, ACM Transactions on the Web.

2025 **AICCSA'25**, ACS/IEEE AICCSA 2025 (Workshops, Special Tracks and Tutorials Co-chair).

2024 **WISE'24**, Qatar University, 25-28 November 2024 (Demo co-chair). <https://wise2024-qatar.com/>.

2024 **Guest editor**, *Special Issue on AI and Data Science for Secure Societies*, Springer Computing Journal.

2022 **SmartTech'22**, Prince Soltan University, Riyadh, KSA (Internet of Things track co-chair) (<http://smarttech.riotu-lab.org/index.php#tracks>).

2018 **Guest editor**, *special issue in the International Journal of Approximate Reasoning*, Elsevier.

2017 **UCC'2017**, *1st International Workshop on Uncertainty in Cloud Computing*, Jean Moulin Lyon 3 University, Lyon, France.

2017 **ASD'2017**, *11th International Conference on Advanced Decision-Making Systems*, Tabarka, Tunisia.

2017 **BDCC'2017**, *1st Spring School on Big Data & Cloud Computing*, Tabarka, Tunisia.

2017 **Seminar**, on "10 Trends in Big Data Science", Speaker: Dr. Rabie Saidi, data mining expert at the European Institute of Bioinformatics, Cambridge, UK., Event place: Jendouba University, Tunisia.

2016 **Seminar**, on "Recovery of missing values and online anomaly detection for time series in big data environments", Speaker: Dr. Mourad Khayati, eXascale Infolab group, University of Fribourg, Switzerland, Place: Jendouba University, Tunisia.

2016 **Seminar**, on "Digital economy", Jendouba University, Tunisia.

2015 **Seminar**, on "FSJEGJ'PAQ2: Achievements and Prospects", Jendouba University, Tunisia.

Other research activities

Invited speaker, *Workshop on Big Data Services for Smart Cities*, Hammamet, Tunisia.

International conferences' PC member, ADS'17, ICSOC'18, CoopIS'18, SMARTTECH'22.

International Journals' Reviewer, IEEE TSC, IEEE TKDE, ACM TWEB, ACM T. on Internet Tech, IEEE T. on Systems Man and Cybernetics, Swarm and Evolutionary Computation, App. Soft Comp., FGCS, KIS, JSPE, AIHC, Web Service Research, ITWE, IEEE Access, JSSOE.

International collaborations

Student supervision
Guest editorial
International workshops
Research projects
Publications
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Training and Certificates

- 2018 **IBM certification**, *Cloud Application Developer 2018 Mastery Award for Educators.*
- 2015 **Training cycles**, *as part of the research programme Innovation of the European Union (H2020).*
- 2015 **Training days for trainers**, *on e-learning platforms, as part of PAQ project, Jendouba University.*
- 2014 **Teachers' training days**, *in e-learning as part of PAQ project, Jendouba University.*
- 2013 **Training on academic English**, *at the Higher Institute of Human Sciences, Jendouba University.*
- 2013 **Awareness days**, *on Technology Transfer and intellectual property, Jendouba University.*
- 2013 **Preparation for certification**, *in Oracle Database 11g.*
- 2011 **Training on Moodle**, *online learning platform as part of the Open School for Workers, Tunis Virtual University.*
- 2006, 2008 **Educational training workshops**, *Regional Centre for Education, Jendouba, Tunisia.*
- 2007 **Training on SPIRAL**, *e-learning platform (Claude Bernard University, Lyon 1).*
- 2005 **Master's internship**, *with LIRIS lab (Claude Bernard University, Lyon, France).*

Education

- 2021 **Habilitation (accreditation to supervise research) in Computer Science**, *Jendouba University.*
- 2014 **PhD in Computer Science**, *Mannouba University, Tunisia.*
- 2005 **Master degree in Computer Science**, *Jendouba University, Tunisia & Claude Bernard University, France.*
- 2004 **Bachelor in Computer**, *Jendouba University, Tunisia.*
- 2000 **Baccalaureate in experimental sciences**, *Khmayes El Hajri School, Jendouba, Tunisia.*

Computer skills

Programming	Python, C, C#, JAVA, Visual basic
Web	HTML 5, CSS, PHP, JSP, Javascript, Node.js, Django, Flask
Database	SQL, MySQL, SQLite, NoSQL
Version Ctl.	Git, GitHub, GitLab
ML tools	TensorFlow, PyTorch
Big Data	Apache Hadoop, Apache Spark, Hive

Languages

- English**, *fluent written and spoken.*
- French**, *fluent written and spoken.*
- Italian**, *intermediate.*

Other activities

- 2014, 2017 **Training Officer**, with the Independent High Authority for Elections in Tunisia.
- 2011-2014 **Member of the Association**, Forum of Arab Culture.
- 2008-2014 **Member of the Tunisian Association**, of Artificial Intelligence, ATIA.
- 2010-2012 **Member of JCI**, Junior Chamber International, in Tunisia.

Publications

Journal Articles

- 2025 Haithem Mezni, Mokhtar Sellami, Hela Elmannai, and Reem Ibrahim Alkanhel. Federated resource prediction in uav networks for efficient composition of drone delivery services. *Computer Networks*, volume -, pages 1–25. Elsevier, 2025.
- 2025 Haithem Mezni, Mokhtar Sellami, Hela Elmannai, and Reem Ibrahim Alkanhel. Daas composition: Enhancing uav delivery services via lstm-based resource prediction and flight patterns mining. *Computing*, volume -, pages 1–20. Springer, 2025.
- 2025 Zaki Brahmi, Haithem Mezni, Hela Elmannai, and Reem Ibrahim Alkanhel. Multi-modal vaas selection in smart mobility networks via spectral hyper-graph clustering and quantum-driven optimization. *Concurrency and Computation: Practice and Experience*, volume -, pages 1–26. Wiley, 2025.
- 2025 Mouhamed Gaith Ayadi, Haithem Mezni, Hela Elmannai, and Reem Ibrahim Alkanhel. Privacy-preserving cross-network service recommendation via federated learning of unified user representations. *Data & Knowledge Engineering*, pages 1–24. Elsevier, 2025.
- 2024 Mokhtar Sellami, Haithem Mezni, Hela Elmannai, and Reem Ibrahim Alkanhel. Drone-as-a-service: Proximity-aware composition of uav-based delivery services. *Cluster Computing*, volume -, pages 1–18. Springer, 2024.
- 2024 Haithem Mezni, Hiba Yahyaoui, Hela Elmannai, and Reem Ibrahim Alkanhel. Personalized service recommendation in smart mobility networks. *Cluster Computing*, volume -, pages 1–17. Springer, 2024.
- 2024 Haithem Mezni, Mokhtar Sellami, Amal Al-Rasheed, and Hela Elmannai. Cross-network service recommendation in smart cities. *Concurrency and Computation: Practice and Experience*, page e8063. Wiley Online Library, 2024.
- 2024 Ameni Hedhli, Haithem Mezni, and Lamjed Ben Said. Bpaas placement over optimum cloud availability zones. *Cluster Computing*, pages 1–21. Springer, 2024.
- 2024 Mouhamed Gaith Ayadi and Haithem Mezni. Enabling configurable workflows in smart environments with knowledge-based process fragment reuse. *Journal of Grid Computing*, volume 22, pages 1–25. Springer, 2024.
- 2023 Haithem Mezni, Fatimetou Sidi Hamoud, and Faouzi Ben Charrada. Predictive service placement in cloud using deep learning and frequent subgraph mining. *Journal of Ambient Intelligence and Humanized Computing*, volume 14, pages 11497–11516. Springer, 2023.
- 2023 Haithem Mezni. Web service adaptation: A decade’s overview. *Computer Science Review*, volume 48, page 100535. Elsevier, 2023.
- 2023 Maha Driss, Wadii Boulila, Haithem Mezni, Mokhtar Sellami, Safa Ben Atitallah, and Nouf Alharbi. An evidence theory based embedding model for the management of smart water environments. *Sensors*, volume 23, page 4672. MDPI, 2023.
- 2023 Mouhamed Gaith Ayadi, Haithem Mezni, Rana Alnashwan, and Hela Elmannai. Effective healthcare service recommendation with network representation learning: A recursive neural network approach. *Data & Knowledge Engineering*, volume 148, page 102233. Elsevier, 2023.

- 2022 Haithem Mezni, Maha Driss, Wadii Boulila, Safa Ben Atitallah, Mokhtar Sellami, and Nouf Alharbi. Smartwater: A service-oriented and sensor cloud-based framework for smart monitoring of water environments. *Remote Sensing*, volume 14, page 922. MDPI, 2022.
- 2022 Wissem Inoubli, Sabeur Aridhi, Haithem Mezni, Mondher Maddouri, and Engelbert Mephu Nguifo. A distributed and incremental algorithm for large-scale graph clustering. *Future Generation Computer Systems*, volume 134, pages 334–347. Elsevier, 2022.
- 2022 Ameni Hedhli, Haithem Mezni, and Lamjed Ben Said. Predictive bpaas management with quantum and neural computing. *Journal of Software: Evolution and Process*, volume 34, page e2421. Wiley Online Library, 2022.
- 2021 Mokhtar Sellami, Haithem Mezni, Mohand Said Hacid, and Mohamed Moshen Gammoudi. Clustering-based data placement in cloud computing: a predictive approach. *Cluster Computing*, volume 24, pages 3311–3336. Springer, 2021.
- 2021 Haithem Mezni, Mokhtar Sellami, Sabeur Aridhi, and Faouzi Ben Charrada. Towards big services: a synergy between service computing and parallel programming. *Computing*, volume 103, pages 2479–2519. Springer, 2021.
- 2021 Haithem Mezni, Djamal Benslimane, and Ladjel Bellatreche. Context-aware service recommendation based on knowledge graph embedding. *IEEE Transactions on Knowledge and Data Engineering*, volume 34, pages 5225–5238. IEEE, 2021.
- 2021 Haithem Mezni. Temporal knowledge graph embedding for effective service recommendation. *IEEE Transactions on Services Computing*, volume 15, pages 3077–3088. IEEE, 2021.
- 2021 Fatma Lahmar and Haithem Mezni. Security-aware multi-cloud service composition by exploiting rough sets and fuzzy fca. *Soft Computing*, volume 25, pages 5173–5197. Springer, 2021.
- 2021 Ameni Hedhli and Haithem Mezni. A survey of service placement in cloud environments. *Journal of Grid Computing*, volume 19, page 23. Springer, 2021.
- 2020 Mokhtar Sellami, Haithem Mezni, and Mohand Said Hacid. On the use of big data frameworks for big service composition. *Journal of Network and Computer Applications*, volume 166, page 102732. Elsevier, 2020.
- 2020 Haithem Mezni, Sofiane Ait Arab, Djamal Benslimane, and Karim Benouaret. An evolutionary clustering approach based on temporal aspects for context-aware service recommendation. *Journal of Ambient Intelligence and Humanized Computing*, volume 11, pages 119–138. Springer, 2020.
- 2020 Ameni Hedhli and Haithem Mezni. A dfa-based approach for the deployment of bpaas fragments in the cloud. *Concurrency and computation: Practice and experience*, volume 32, page e5075. Wiley Online Library, 2020.
- 2020 Souad Ghazouani, Haithem Mezni, and Yahya Slimani. Bringing semantics to multicloud service compositions. *Software: Practice and Experience*, volume 50, pages 447–469. Wiley Online Library, 2020.
- 2020 Mohamed Gharbi and Haithem Mezni. Towards big services composition. *International Journal of Web and Grid Services*, volume 16, pages 393–421. Inderscience Publishers (IEL), 2020.
- 2020 Mayssa Fayala and Haithem Mezni. Web service recommendation based on time-aware users clustering and multi-valued qos prediction. *Concurrency and Computation: Practice and Experience*, volume 32, page e5603. Wiley Online Library, 2020.
- 2019 Haithem Mezni and Mariem Kbekbi. Reusing process fragments for fast service composition: a clustering-based approach. *Enterprise Information Systems*, volume 13, pages 34–62. Taylor & Francis, 2019.
- 2019 Allet Hadjali, Haithem Mezni, Sabeur Aridhi, and Andrei Tchernykh. Special issue on “uncertainty in cloud computing:: Concepts, challenges and current solutions”, 2019.

- 2018 Haithem Mezni, Mokhtar Sellami, and Jaber Kouki. Security-aware saas placement using swarm intelligence. *Journal of Software: Evolution and Process*, volume 30, page e1932. Wiley Online Library, 2018.
- 2018 Haithem Mezni and Mokhtar Sellami. A negotiation-based service selection approach using swarm intelligence and kernel density estimation. *Software: Practice and Experience*, volume 48, pages 1285–1311. Wiley Online Library, 2018.
- 2018 Haithem Mezni and Mayssa Fayala. Time-aware service recommendation: Taxonomy, review, and challenges. *Software: Practice and Experience*, volume 48, pages 2080–2108. Wiley Online Library, 2018.
- 2018 Haithem Mezni, Sabeur Aridhi, and Allel Hadjali. The uncertain cloud: State of the art and research challenges. *International Journal of Approximate Reasoning*, volume 103, pages 139–151. Elsevier, 2018.
- 2018 Haithem Mezni and Taher Abdeljaoued. A cloud services recommendation system based on fuzzy formal concept analysis. *Data & Knowledge Engineering*, volume 116, pages 100–123. Elsevier, 2018.
- 2018 Tarek Mahdhi and Haithem Mezni. A prediction-based vm consolidation approach in iaas cloud data centers. *Journal of Systems and Software*, volume 146, pages 263–285. Elsevier, 2018.
- 2018 Fatma Lahmar and Haithem Mezni. Multicloud service composition: a survey of current approaches and issues. *Journal of software: evolution and process*, volume 30, page e1947. Wiley Online Library, 2018.
- 2018 Wissem Inoubli, Sabeur Aridhi, Haithem Mezni, Mondher Maddouri, and Engelbert Mephu Nguifo. An experimental survey on big data frameworks. *Future Generation Computer Systems*, volume 86, pages 546–564. Elsevier, 2018.
- 2018 Mohamed Amin Hajji and Haithem Mezni. A composite particle swarm optimization approach for the composite saas placement in cloud environment. *Soft Computing*, volume 22, pages 4025–4045. Springer, 2018.
- 2017 Haithem Mezni and Mokhtar Sellami. Multi-cloud service composition using formal concept analysis. *Journal of Systems and Software*, volume 134, pages 138–152. Elsevier, 2017.
- 2014 Haithem Mezni, Walid Chainbi, and Khaled Ghedira. Extending policy languages for expressing the self-adaptation of web services. *J. Univers. Comput. Sci.*, volume 20, pages 1130–1151, 2014.
- 2012 Walid Chainbi, Haithem Mezni, and Khaled Ghedira. Afaws: an agent based framework for autonomic web services. *Multiagent and Grid Systems*, volume 8, pages 45–68. IOS Press, 2012.

In Conference Proceedings

- 2025 Hana Derouiche, Zaki Brahmi, and Haithem Mezni. Agentic ai frameworks: Architectures, protocols, and design challenges. In *ACS/IEEE 22nd International Conference on Computer Systems and Applications (AICCSA)*, Special Track: Agentic AI for Stream and Service-based Systems (AA2S), Qatar, 2025.
- 2021 Ameni Hedhli, Haithem Mezni, and Lamjed Ben Said. A quantum-inspired neural network model for predictive bpaas management. In *Database and Expert Systems Applications: 32nd International Conference, DEXA 2021, Virtual Event, September 27–30, 2021, Proceedings, Part I*, pages 91–103. Springer, 2021.
- 2018 Wissem Inoubli, Sabeur Aridhi, Haithem Mezni, Mondher Maddouri, and Engelbert Mephu Nguifo. A comparative study on streaming frameworks for big data. In *VLDB 2018-44th International Conference on Very Large Data Bases: Workshop LADaS-Latin American Data Science*, pages 1–8, 2018.

- 2017 Haithem Mezni and Jaber Kouki. A multi-swarm based approach with cooperative learning strategy for composite saas placement. In *Proceedings of the Symposium on Applied Computing*, pages 399–404, 2017.
- 2017 Haithem Mezni. A multi-recommenders system for service provisioning in multi-cloud environment. In *2017 28th International Workshop on Database and Expert Systems Applications (DEXA)*, pages 142–146. IEEE, 2017.
- 2016 Jaber Kouki and Haithem Mezni. Semantic qos synchronization of web services. In *2016 International Symposium on Networks, Computers and Communications (ISNCC)*, pages 1–6. IEEE, 2016.
- 2015 Haithem Mezni and Mokhtar Sellami. Aws-ont: an ontology for the self-management of service-based systems. In *2015 IEEE 8th International Conference on Service-Oriented Computing and Applications (SOCA)*, pages 85–92. IEEE, 2015.
- 2014 Haithem Mezni. Towards trustworthy service adaptation: an ontology-based cross-layer approach. In *2014 IEEE 5th International Conference on Software Engineering and Service Science*, pages 90–94. IEEE, 2014.
- 2012 Haithem Mezni, Walid Chainbi, and Khaled Ghedira. Aws-policy: an extension for autonomic web service description. *Procedia Computer Science*, volume 10, pages 915–920. Elsevier, 2012.
- 2011 Haithem Mezni, Walid Chainbi, and Khaled Ghedira. An autonomic registry-based soa model. In *2011 IEEE International Conference on Service-Oriented Computing and Applications (SOCA)*, pages 1–4. IEEE, 2011.
- 2010 Walid Chainbi, Haithem Mezni, and Khaled Ghedira. Pecodim: An agent based framework for autonomic web services. In *2010 6th World Congress on Services*, pages 543–550. IEEE, 2010.
- 2010 Walid Chainbi, Haithem Mezni, and Khaled Ghedira. An autonomic computing architecture for self-* web services. In *Autonomic Computing and Communications Systems: Third International ICST Conference, Autonomics 2009, Limassol, Cyprus, September 9-11, 2009, Revised Selected Papers*, pages 252–267. Springer, 2010.
- 2006 Chirine Ghedira and Haithem Mezni. Through personalized web service composition specification: from bpel to c-bpel. *Electronic Notes in Theoretical Computer Science*, volume 146, pages 117–132. Elsevier, 2006.