

Dr. Omar QAWASMEH

Assistant Professor - PSUT | Senior Data & AI Engineer

Ph.D. in Artificial Intelligence (Knowledge Representation and Natural Language Processing), Université de Lyon

[in](https://www.linkedin.com/in/omar-qawasmeh) linkedin.com/in/omar-qawasmeh

+962 791507912 | +33 769996433 [✉](mailto:qawasmeh.omar) qawasmeh.omar

@ omar_qawasmeh@hotmail.com

@ o.alqawasmeh@psut.edu.jo

📍 Amman, Jordan

📅 Date and place of birth : 26 September 1991, Irbid- Jordan

🇯🇴 Nationalities : French - Jordanian



Omar Qawasmeh is an expert in Artificial Intelligence who works at the intersection of Research and Development including academics, standardization, and business. Omar holds a Ph.D. in Semantic Web and Knowledge Engineering from the University of Lyon as well as a master's degree in Natural Language Processing and information extraction.

Omar has also worked extensively in the academic sphere by participating in the writing of published research articles, book chapters, posters, and demos in the fields of natural language processing and the Semantic Web.

🎓 EDUCATION

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| December 2016- September 2020 | PhD in COMPUTER SCIENCE University of Lyon Thesis title : <i>"Towards A Collaborative Framework for Ontology Engineering : Impact on Ontology Evolution and Pitfalls in Ontology Networks and Versioned Ontologies"</i> Supervisors : Prof. Pierre Maret, Dr. Maxime Lefrançois, and Dr. Antoine Zimmermann |
| February 2014 - November 2016 | MSc in COMPUTER SCIENCE Jordan University of Science and Technology Thesis title : <i>"Hybrid Approach for Events Extraction from Arabic Tweets"</i> Supervisor : Dr. Mohammad Al-Smadi |
| September 2009 - February 2014 | BSc in COMPUTER SCIENCE Jordan University of Science and Technology Thesis title : <i>"Optical character recognition : A mobile application for capturing and managing medicines"</i> Supervisor : Dr. Mahmoud Al-Ayoub |

📁 WORKING EXPERIENCE

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| September 2023 now | Assistant Professor Data Science Department - Princess Sumaya University for Technology (PSUT), AMMAN Jordan My current role includes but is not limited to the following tasks : <ol style="list-style-type: none">1. Designing and delivering the course <i>Web and Social Media Analysis</i>, with emphasis on ontologies, knowledge graphs, and machine learning techniques applied to graph-based data.2. Designing and delivering the course <i>Operational AI Systems (DevOps, MLOps, and DataOps)</i>, covering the operational lifecycle of intelligent systems, from software and data engineering practices to model deployment, monitoring, and maintenance.3. Delivering the <i>Data Engineering</i> course and its associated laboratory sessions, ensuring a balance between conceptual understanding and applied technical skills.4. Leading internal research activities at PSUT in knowledge graphs, large language models (LLMs), natural language processing (NLP), and related research areas. |
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| March 2022 | <p>Senior Data & AI Engineer Hybrid Intelligence, Capgemini Engineering LyonFrance</p> <p>[March 2023 -September 2023] Promoted to a Career manager Hybrid Intelligence, Capgemini Engineering, Lyon France.</p> <p>[January 2023 -September 2023] :</p> <p>Promoted to a Senior AI and data engineer (research and development) Hybrid Intelligence, Capgemini Engineering, Lyon France.</p> <p>My work at Hybrid Intelligence includes, but is not limited to the following activities :</p> <ol style="list-style-type: none"> 1. Applying Semantic web technologies in both research projects and clients' projects, mainly Airbus, and Schneider Electric. 2. Presales, where I participated in preparing and presenting presales proposals directly to the clients. <p>[March 2022- January 2023] :</p> |
| September 2023 | <p>Data scientist (research and development) Hybrid Intelligence, Capgemini Engineering, LYON France Permanent contract validated at the end of the first trial period.</p> |
| January 2021 March 2022 | <p>Data scientist (research and development) Nextra Partners Advanced Intelligence, MARSEILLE France Permanent contract validated at the end of the first trial period. My work at Nextra Partners includes, but is not limited to the following topics :</p> <ul style="list-style-type: none"> > Explainable Artificial Intelligence : Worked on a research project that aims at investigating the intersection between semantic web technologies and AI models. The main aim was to create an explainable AI platform for a specific use case. > Expert at the European Telecommunications Standards Institute (ETSI) : Worked on different proposals and projects proposed by ETSI. The selection of these projects is based on submitting proposals and passing a jury selection. Out of 3 proposals I have submitted, 2 of them were successfully accepted. > Technical auditor : Worked as a technical auditor where I interviewed, examined, and evaluated the technical aspects (data architecture, methodology, and working pipelines, etc.) for companies that work on different topics related to artificial intelligence. |
| February 2020 December 2020 | <p>Research and Development Engineer École des Mines de Saint-Étienne , SAINT-ÉTIENNE France</p> <ul style="list-style-type: none"> > Part of Specialist Task Force 578 (STF-578) <ul style="list-style-type: none"> > Main aim is to develop a multi-tests pipeline that is used to check the development guidelines for the Smart Applications REference Ontology, and extensions (SAREF) as specified by ETSI Technical Specification TS 103 673 v1.1.1. "SAREF Development Framework and Workflow, Streamlining the Development of SAREF and its Extensions". > Available at : https://saref.etsi.org/ > Contribute to SPARQL-generate project <ul style="list-style-type: none"> > Available at : https://ci.mines-stetienne.fr/sparql-generate/ |
| December 2016 December 2019 | <p>PhD researcher Laboratoire Hubert Curien, SAINT-ÉTIENNE France</p> <ul style="list-style-type: none"> > PhD researcher in the semantic web domain. > Mainly worked on my PhD thesis project. > More information about related publications are available at the publications section. |
| October 2017 November 2017 | <p>Invited researcher (Semantic web) Fraunhofer-Institut für Intelligente Analyse- und Informationssysteme, SANKT AUGUSTIN Germany</p> <ul style="list-style-type: none"> > Project title : "Collaborative ontology engineering" |

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| June 2015 | Natural Language Processing (NLP) Researcher Jordan University of Science and Technology, IRBID Jordan |
| May 2016 | <ul style="list-style-type: none"> > Worked on different topics related to NLP, mainly : Aspect based sentiment Analysis, Events Extraction, and Named Entity Disambiguation. > More information about related publications are available at the publications section. |

RESEARCH AND DEVELOPMENT PROJECTS

RESEARCH AND DEVELOPMENT (R&D) PROJECTS :

- > **Big Data Integration using Natural Language Processing, Large Language Models, and Semantic Web Technologies** | In collaboration with **Prof. Mohammad Al-Azzeh**
 - > Development of a big data management system leveraging knowledge graph technologies.
 - > Implementation of a Retrieval-Augmented Generation (RAG) system enhanced by knowledge graph support.
 - > Extraction of business insights through the RAG-based system.
- > **Towards a sustainable PSUT : semantic data integration of the Internet of Things (IoT) devices** | In collaboration with **Dr. Anastassia Gharib**
 - > **Short description** : We aim to investigate the pivotal role of the Internet of Things (IoT), Semantic web technologies (i.e., smart data representation), and Machine Learning models in enhancing sustainability management at PSUT.
 - > **Funding** : December 2023 - December 2025.

MSC LEVEL SUPERVISION :

TABLE 2 – MSc Level Supervision

| Student Name | Starting Date | Ending Date | Thesis Title | Role |
|-----------------|---------------|--------------|--|-----------------|
| Mayson Al-Fares | April 2024 | August 2025 | Building and Using Personal Knowledge Graphs to Improve Depression Detection on Social Media | Main Supervisor |
| Eman Yasin | April 2024 | October 2025 | A modular and context -aware framework for Arabic -English code-switched Machine Translation | Main Supervisor |
| Dima Alhaj | November 2024 | October 2025 | Semantic Web Meets NLP and Generative AI : An Approach for Hotel Demand Forecasting | Main Supervisor |
| Saleem Elbouri | November 2024 | On-going | Optimizing Passage Ranking in Retrieval-Augmented Generation (RAG) with Learn-To-Rank (LTR) for Enhanced LLM Performance | Main Supervisor |
| Renad Alzghoul | October 2024 | On-going | Developing a Knowledge Graph for Biologics Safety : Stratifying Safety Information by Drug and Patient Characteristics | Co-Supervisor |
| Osama Alqasem | October 2025 | On-going | Towards Intelligent Legal Systems : Integrating Knowledge Graphs and AI for Arabic Legal Text Understanding | Main Supervisor |

BSC LEVEL SUPERVISION (SELECTED PROJECTS) :

- > **Fairouz** : Binding Music Data of Different Modalities.
- > **BiasLens** : a news platform that classifies news reporting on articles using a well-constructed knowledge graph (KG).
- > **TranslateBasha** : focuses on the conversion of colloquial Arabic (Tunisian, Moroccan, etc.) to modern standard Arabic, aiming to bridge the linguistic gap between everyday spoken Arabic dialects and the formal, standardized version.

OTHER EXPERIENCE

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| ETSI projects | <p>Serve as an expert for the European Telecommunications Standards Institute (ETSI STFs), mainly :</p> <ul style="list-style-type: none"> > Part of Specialist Task Force 578 (STF-578) <ul style="list-style-type: none"> > Main aim is to develop a multi-tests pipeline that is used to check the development guidelines for the Smart Applications REference Ontology, and extensions (SAREF) as specified by ETSI Technical Specification TS 103 673 v1.1.1. "SAREF Development Framework and Workflow, Streamlining the Development of SAREF and its Extensions". > Available at : https://portal.etsi.org/STF/STFs/STF-Homepages/STF578 > Part of Specialist Task Force 604 (STF 604) <ul style="list-style-type: none"> > Main aim is to develop and extend existing terminologies that are related to the ICT domain. > Available at : https://portal.etsi.org/STF/STFs/STF-Homepages/STF604. |
| Task organizer | <p>SemEval-2016, INTERNATIONAL WORKSHOP ON SEMANTIC EVALUATION 2016</p> <ul style="list-style-type: none"> > One of the organizers for Multilingual Datasets Support for Arabic team > Task : Preparation and support for the Arabic Dataset for Task 5 : Aspect-Based Sentiment Analysis |
| Reviewer | <p>Serve as a reviewer for the following conferences, journals, and competitions :</p> <ul style="list-style-type: none"> > Artificial Intelligence Review : An International Science and Engineering Journal > International Workshop on Semantic Evaluation (SemEval-2016) > International workshop on Big Data and Social Networking Management and Security (BDSN) > International Conference on Information and Communication Systems (ICICS) |
| TPC member | <p>Serve as a tpc for the following events, 2016-2017 :</p> <ul style="list-style-type: none"> > SNAMS 2016 : The 3rd International Symposium on Social Networks Analysis, Management and Security > ICICS2017 (The 8th International Conference on Information and Communication Systems) |

PUBLICATIONS

I KEEP A FULL LIST OF MY PUBLICATIONS AT :

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| RESEARCHGATE | http://www.researchgate.net/profile/Omar_Qawasmeh |
| GOOGLE SCHOLAR | https://scholar.google.com/citations?user=CoQ2_qkAAAAJ&hl=en |
| SCOPUS PROFILE | https://www.scopus.com/authid/detail.uri?authorId=57128645700 |
| ORCID ID | https://orcid.org/0000-0002-3461-4698 |

AWARDS AND ACTIVITIES

AWARDS :

- > Best poster award given by the ASEC association at the poster session of the day of research at the University of Lyon 14 Jun 2018.
- > The International Semantic Web Research School (ISWS 2018) 1-7 Jul 2018 (Attended with a full scholarship to cover the expenses (estimated amount 900 euros).

SCIENTIFIC ACTIVITIES : I presented scientific articles or demos in the following events :

- > Statlearn 2017 workshop in Lyon 5-7 APR 2017.
- > The Web Intelligence summer school (WISS) in Saint-Etienne, France 3-7 JUL 2017.
- > Invited speaker at the ontology group at IRSTEA-centre de Clermont-Ferrand. Presentation title : Collaborative ontology Development : focus on bootstrapping capabilities.
- > Extended Semantic Web Conference (ESWC 2018) in Heraklion, Greece 3-7 JUN 2018.
- > The Fifth International Conference on Social Networks Analysis Management and Security (SNAMS-2018) in Valencia, Spain 15-18 OCT 2018.
- > 21st International Conference on Knowledge Engineering and Knowledge Management (EKAW-2018) in Nancy, France 12-16 NOV 2018.
- > LDK 2019 – 2nd Conference on Language, Data and Knowledge in Leipzig, Germany 20-23 May 2019.
- > KEOD 2019 – the 11th International Joint Conference on Knowledge Discovery, Knowledge Engineering and Knowledge Management 17-19 SEP 2019.

LANGUAGES

ARABIC : Mother tongue

ENGLISH : Full professional proficiency

FRENCH : Medium professional proficiency

REFERENCES

CERTIFICATES ARE AVAILABLE UPON REQUEST