Fayrouz SOUALAH-ALILA
Symbolic AI and Semantic Web R&D Engineer

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Date of birth 13 June 1986

in LinkedIn
◯ Publications
▶ Current situation

Experienced R&D engineer with a strong academic background in Semantic Web, Knowledge Graphs, and AI-based decision support systems

Work experience

Symbolic AI and Semantic Web R&D Engineer - Khresterion, Bordeaux/Paris
May 2020 - Present

Khresterion is a company developing a software platform which offers to exploit experts business knowledge via a SAAS platform to support complex decision-making situations. My job consists of designing and implementing knowledge-based systems using :

- **Technologies** : RDF, RDFS, OWL, ontologies, SHACL, SPARQL, JSON-LD, Protege, named graphs, inferencing, validation
- **Triple stores** : Stardog, GraphDB, Fuseki
- **Data Integration & Transformation:** ETL pipelines
- **LLMs & APIs** : OpenAI, Anthropic, Gemini
- **Languages** : Python, Java, Lua
- **Tools** : Elasticsearch, Atlassian Suite, LaTeX
- **Agile/SCRUM** environment

R&D IT Manager - Aqsitania, Bordeaux
September 2016 - May 2020

Contributed to the development and deployment of a technology for modelling and analysing physiological signals (respiratory and cardiac) signals at Aqsitania.

Postdoc - , L3I laboratory (Laboratoire Image Informatique, et Interaction), La Rochelle
March 2015 - August 2016

Worked on the TourinFlux and Intuitiv projects to develop an architecture leveraging Semantic Web technologies for managing complex, heterogeneous, and dynamic tourism data.

Research engineer - University of Burgundy, Dijon
September 2011 - February 2012

Education

PhD in computer science, CIFRE thesis, collaboration between the CrossKnowledge company and the Checksem research team, Dijon and Sophia Antipolis
March 2012 - February 2015

CAMLearn : A context-aware semantic recommendation system architecture, application to the field of m-learning

Defense : 03/18/2015

Mention : Very honorable

Keywords : M-learning, Context, Recommendation systems, Semantic Web, Ontologies, Rules, Combinatorial algorithms

Thesis report : https://www.theses.fr/en/2015DIJOS032

Languages

French
bilingual

English
fluent

Skills and knowledges

▶ **Semantic Web**
- Knowledge representation : RDF, RDFS, OWL, ontologies, SWRL, SHACL, Turtle, JSON-LD, SKOS, named graphs
- Processing : SPARQL, SHACL, SHACL-SPARQL, Java Jena API, RDFLib, Protege
- Data persistence : Mapping heterogeneous data
- Triplestores : Stardog, GraphDB, Fuseki, Virtuoso
- Reasoning tools : Business rule languages, Reasoning engines, Validation engines, Pellet, HermiT

▶ **Knowledge in LLM**

Implementation of solutions based on Large Language Models (LLMs), including GPT (OpenAI), Claude (Anthropic), Gemini (Google), Mistral

▶ **Databases**

Oracle, MySQL, SQL server, pgAdmin, PostgreSQL, NoSQL, MongoDB, Neo4j

▶ **Search and indexing**

Elasticsearch, Kibana

▶ **Programming languages**

Python, Java, Lua, Shell scripting

▶ **Software engineering**
- IDE: JetBrains Suite, VS Code
- Version Control: Git, Bitbucket
- Code Quality & Analysis: SonarQube
- Project Management: Jira, Confluence

▶ **Project management**

Task Planning, Meeting Management, Technical Report Writing, Team Management, Customer Relations, Helpdesk and Support Request Management

▶ **Office automation**

Word, Excel, PowerPoint, Prezi, Open Office, LaTex, Google Workspace

▶ **Operating systems**

Windows, Linux, Mac OS

Hobbies