Hanna Abi Akl

+33618086784 | hanna.abi-akl@inria.fr | https://hannaabiakl.github.io/

 LinkedIn | GitHub | ORCID | Google Scholar

Paris, 75005, France

SUMMARY

I am a Research Scientist in Artificial Intelligence. My research interests include neuro-symbolic artificial intelligence, knowledge representation, knowledge graphs, ontologies, natural language processing and the semantic web. I am currently working on neuro-symbolic and knowledge-based approaches for reasoning abilities in Large Language Models. I also teach at Data ScienceTech Institute and Sciences Po.

PROFESSIONAL EXPERIENCE

- **INRIA [⊕]**   *12/2025 - Current*
  PhD Student   Nice, France
  - Part of WIMMICS, 3IA, CNRS, I3S and Université Côte d'Azur
  - Topic: Neuro-symbolic and knowledge-based approaches for reasoning in Large Language Models
  - Supervision: Fabien Gandon, Catherine Faron, Pierre Monnin
  - Keywords: Logical Reasoning, Neuro-symbolic Artificial Intelligence, Knowledge Graphs, Ontologies, Natural Language Processing, Semantic Web
  - Summer Schools: ESSAI 2025, Reasoning Web 2025

- **SciencesPo Paris School of International Affairs [⊕]**   *08/2024 - Current*
  Adjunct Instructor   Paris, France
  - Teaching activities: Programming, Databases, and Machine Learning Foundations for Decision-Makers, Cloud Computing

- **INRIA [⊕]**   *02/2023 - 11/2025*
  External Scientific Collaborator   Nice, France
  - Member of the WIMMICS team
  - PhD thesis supervision on triplet relation extraction using NLP and Semantic Web methodologies
  - Testing and validation of the KGStat tutorial project based on Machine Learning techniques using Semantic Web data

- **Data ScienceTech Institute School of Engineering [⊕]**   *02/2023 - Current*
  Vice-Dean and Chief Academic Officer   Paris, France
  - Teaching activities: Clean IT, Software Engineering, Machine Learning Labs, Artificial Neural Networks, Deep Learning, Amazon Web Services, Data Wrangling with SQL
  - Preparation of Faculty Seminars and scientific programme reviews
  - Improvement of programme structure and evaluation (Bachelors and Masters level)
  - Responsible for faculty recruitment interviews

- **Yseop [⊕]**   *04/2019 - 02/2023*
  Data Scientist and Machine Learning Engineer   Paris, France
  - Identification and prototyping of artificial intelligence use cases using machine and deep learning techniques
  - Design and integration of artificial intelligence tools in existing product from text corpora, APIs, business ontologies and knowledge graphs

- **Data ScienceTech Institute School of Engineering [⊕]**   *09/2021 - 02/2023*
  Course Instructor   Paris, France
  - Teaching activities: Clean IT, Software Engineering, Machine Learning Labs

- **Data ScienceTech Institute School of Engineering [⊕]**   *01/2019 - 04/2019*
  Private Tutor   Paris, France
  - Preparing students for the "AWS Certified Solutions Architect - Associate" certification exam

- **Data Consult [⊕]**   *06/2015 - 08/2018*
  Data Integration Engineer   Beirut, Lebanon
  - Configuration, maintenance and customization of cloud applications
  - High-level analysis and smart data reporting through API and chatbot software integration
  - Implementation of first Smart City solution in Lebanon
  - Presentation of data augmentation platform at the Mobile World Congress (MWC)

- **Touch [⊕]**   *07/2014 - 08/2014*
  Site Implementation and Maintenance (SI&M) Engineering Intern   Beirut, Lebanon

◦ Theoretical research on the development and advancement of 4G technology

- **American University of Beirut [⊕]** *06/2012 - 12/2013*
  Research Assistant Beirut, Lebanon
  ◦ Benchmarking and optimization of Alaoui filter and integrator model parameters in Matlab

- **American University of Beirut [⊕]** *09/2011 - 09/2015*
  Private Tutor Beirut, Lebanon
  ◦ Teaching middle school and high school subjects

EDUCATION

- **Université Côte d'Azur** *12/2025 - Current*
  PhD, Computer Science Nice, France
  ◦ Topic: Neuro-symbolic and knowledge-based approaches for reasoning in Large Language Models
  ◦ Supervision: Fabien Gandon, Catherine Faron, Pierre Monnin

- **Quantic School of Business and Technology** *12/2024 - 06/2026*
  Executive MBA Washington, DC, United States of America
  ◦ GPA: 4.0/4.0
  ◦ Awarded the France Leadership scholarship

- **Université Côte d'Azur** *12/2023 - 07/2024*
  Master, Computer Science Nice, France
  ◦ GPA: 4.0/4.0
  ◦ Awarded full completion by the Validation d'Acquis par Expérience (VAE)

- **Data ScienceTech Institute School of Engineering** *10/2018 - 09/2019*
  M.Sc., Data Science and Artificial Intelligence Paris, France
  ◦ GPA: 4.0/4.0
  ◦ Graduated Summa Cum Laude
  ◦ Awarded Second prize at HackBordeaux 2019 Capgemini challenge for the FuelMi application

- **American University of Beirut** *09/2011 - 05/2015*
  B.E., Computer and Communications Engineering Beirut, Lebanon
  ◦ Dean's Honor List: Spring Semester 2015
  ◦ Awarded Second prize in the National Instruments elevator design challenge
  ◦ Recipient of the Philippe Jabre Association scholarship for excellence

- **Collège Notre Dame de Jamhour** *09/1998 - 06/2011*
  High School Diploma, General Sciences Beirut, Lebanon
  ◦ Ranked in top 10% of cohort (300 students)
  ◦ High Distinction in the French Baccalaureate
  ◦ High Distinction in the Lebanese Baccalaureate
  ◦ Recipient of the Carlos Ghosn scholarship for excellence

PATENTS AND PUBLICATIONS   C=CONFERENCE, J=JOURNAL, P=PATENT, S=IN SUBMISSION, T=THESIS

[J.6] Célian Ringwald, Fabien Gandon, Catherine Faron, Franck Michel, **Hanna Abi Akl** (2025). **A systematic review of relation extraction task since the emergence of Transformers**. In *arXiv preprint arXiv:2511.03610*.

[J.5] Célian Ringwald, Fabien Gandon, Catherine Faron, Franck Michel, **Hanna Abi Akl** (2025). **Overcoming the Generalization Limits of SLM Finetuning for Shape-Based Extraction of Datatype and Object Properties**. In *HAL Science hal-05285428*.

[C.18] **Hanna Abi Akl** (2025). **Investigating Language Model Capabilities to Represent and Process Formal Knowledge: A Preliminary Study to Assist Ontology Engineering**. In *the International Joint Conference on Rules and Reasoning (RuleML+RR) 2025 Doctoral Consortium*.

[C.17] Célian Ringwald, Fabien Gandon, Catherine Faron, Franck Michel, **Hanna Abi Akl** (2025). **Kastor: Fine-tuned Small Language Models for Shape-based Active Relation Extraction**. In *European Semantic Web Conference*, pp. 94-115. Springer, Cham. DOI: 10.1007/978-3-031-94575-5_6.

[J.4] Célian Ringwald, Fabien Gandon, Catherine Faron, Franck Michel, **Hanna Abi Akl** (2025). **Extensive Benchmark of Small Language Models for Datatype Properties Extraction and RDF Knowledge Graph Generation**. Manuscript submitted for publication in *Semantic Web*.

[P.3] **Hanna Abi Akl**, Hugues de Mazancourt, Dominique Mariko (2024). **Ontology mapping and adaptation systems and methods**. U.S. Patent Office, Patent No. 12,106,049. Publication Date: 01 October 2024.

[C.16] **Hanna Abi Akl**, et al (2024). **Knowledge Graphs can play together: Addressing knowledge graph alignment from ontologies in the biomedical domain**. In *Proceedings of the 16th International Conference on Knowledge Discovery and Information Retrieval (KDIR 2024)*, pp. 416-423. DOI: 10.5220/0013015800003838.

[C.15] **Hanna Abi Akl** (2024). **Project SHADOW: Symbolic Higher-order Associative Deductive reasoning On Wikidata using LM probing**. In *Proceedings of the 10th International Conference on Natural Language Computing (NATL 2024)*.

[C.14] **Hanna Abi Akl** (2024). **DSTI at LLMs4OL 2024 Task A: Intrinsic versus extrinsic knowledge for type classification**. In *Open Conference Proceedings*, pp. 93-101. DOI: https://doi.org/10.52825/ocp.v4i.2492.

[C.13] Célian Ringwald, Fabien Gandon, Catherine Faron, Franck Michel, **Hanna Abi Akl** (2024). **Learning Pattern-Based Extractors from Natural Language and Knowledge Graphs Applying Large Language Models to Wikipedia & the Linked Open Data**. In *Proceedings of the AAAI Conference on Artificial Intelligence*, pp. 23411-23412. DOI: https://doi.org/10.1609/aaai.v38i21.30406.

[C.12] Célian Ringwald, Fabien Gandon, Catherine Faron, Franck Michel, **Hanna Abi Akl** (2024). **12 shades of RDF: Impact of Syntaxes on Data Extraction with Language Models**. In *European Semantic Web Conference*, pp. 81-91. Springer, Cham. DOI: https://doi.org/10.1007/978-3-031-78952-6_8.

[C.11] **Hanna Abi Akl** (2024). **NeSy is alive and well: A LLM-driven symbolic approach for better code comment data generation and classification**. In *Joint Proceedings of the ESWC 2024 Workshops and Tutorials co-located with 21th European Semantic Web Conference (ESWC 2024)*.

[C.10] Célian Ringwald, Fabien Gandon, Catherine Faron, Franck Michel, **Hanna Abi Akl** (2024). **Well-written knowledge graphs: most effective RDF syntaxes for triple linearization in end-to-end extraction of relations from texts**. In *Proceedings of the AAAI Conference on Artificial Intelligence*, pp. 23631-23632. DOI: https://doi.org/10.1609/aaai.v38i21.30502.

[C.9] **Hanna Abi Akl** (2023). **PSYCHIC: A Neuro-Symbolic Framework for Knowledge Graph Question-Answering Grounding**. In *Joint Proceedings of Scholarly QALD 2023 and SemREC 2023 co-located with 22nd International Semantic Web Conference (ISWC 2023)*.

[C.8] **Hanna Abi Akl** (2023). **A ML-LLM pairing for better code comment classification**. In *FIRE (Forum for Information Retrieval Evaluation)*.

[C.7] Célian Ringwald, Fabien Gandon, Catherine Faron, Franck Michel, **Hanna Abi Akl** (2023). **Learning RDF pattern extractors from natural language and knowledge graphs-application to Wikipedia and the LOD**. In *Proceedings of the AAAI Conference on Artificial Intelligence*. DOI: https://doi.org/10.1609/aaai.v38i21.30406.

[P.2] **Hanna Abi Akl**, Hugues de Mazancourt, Dominique Mariko, Valentin Pierart (2023). **Systems and methods for measuring automatability of report generation using a natural language generation system**. U.S. Patent Office, Patent No. 11,734,517. Publication Date: 22 August 2023.

[C.6] **Hanna Abi Akl** (2023). **The Path to Autonomous Learners**. In *Science and Information Conference*, pp. 808-830. DOI: https://doi.org/10.1007/978-3-031-37717-4_52.

[P.1] Dominique Mariko, **Hanna Abi Akl**, Hugues de Mazancourt (2022). **Techniques for generating natural language text customized to linguistic preferences of a user**. U.S. Patent Office, Patent No. 11,501,088. Publication Date: 15 November 2022.

[J.3] Rami Bou Khalil, Ramez Dagher, Myriam Zarzour, Ghassan Sleilaty, **Hanna Abi Akl**, et al (2022). **The impact of lockdown and other stressors during the COVID-19 pandemic on depression and anxiety in a Lebanese opportunistic sample: an online cross-sectional survey**. In *Current Psychology*, pp. 1-11. DOI: https://doi.org/10.1007/s12144-021-02644-0.

[C.5] **Hanna Abi Akl**, et al (2021). **Yseop at FinSim-3 Shared Task 2021: Specializing Financial Domain Learning with Phrase Representations**. In *Proceedings of the Third Workshop on Financial Technology and Natural Language Processing*, pp. 52–57.

[C.4] Anubhav Gupta, **Hanna Abi Akl**, et al (2021). **Not all titles are created equal: Financial document structure extraction shared task**. In *Proceedings of the 3rd Financial Narrative Processing Workshop*, pp. 86-88.

[C.3] **Hanna Abi Akl**, et al (2020). **Yseop at SemEval-2020 Task 5: Cascaded BERT Language Model for Counterfactual Statement Analysis**. In *Proceedings of the Fourteenth Workshop on Semantic Evaluation*, pp. 468–478.

[J.2] **Hanna Abi Akl**, et al (2020). **SemEval-2020 Task 5: Detecting Counterfactuals by Disambiguation**. In *arXiv preprint arXiv:2005.08519*.

[J.1] Dominique Mariko, Estelle Labidurie, Yagmur Ozturk, **Hanna Abi Akl**, et al (2020). **Data Processing and Annotation Schemes for FinCausal Shared Task**. In *arXiv preprint arXiv:2012.02498*.

[C.2] Dominique Mariko, **Hanna Abi Akl**, et al (2020). **Financial Document Causality Detection Shared Task (FinCausal 2020)**. In *Proceedings of the 1st Joint Workshop on Financial Narrative Processing and MultiLing Financial Summarisation*, pp. 23-32.

[C.1] **Hanna Abi Akl**, Anubhav Gupta, Dominique Mariko (2019). **Fintoc-2019 shared task: Finding title in text blocks**. In *Proceedings of the Second Financial Narrative Processing Workshop (FNP 2019)*, pp. 58-62.

- **[S.12] CLGC** 2026
  Tools: Python, GitHub [🎯]
  ◦ Python package to translate first-order logic into different knowledge representation languages using BNF grammar and Abstract Syntax Trees
  ◦ Support for multiple knowledge representation languages
  ◦ Categorizes syllogisms by type

- **[S.11] LOGIC-NL-CLIF-Flan-T5-Large** 2026
  Tools: Python, Deep Learning, Hugging Face [🎯]
  ◦ Logic language model fine-tuned to classify syllogism veracity in Common Logic Interchange Format
  ◦ Trained on SemEval-2026 Task 11 dataset
  ◦ Publicly released on Hugging Face

- **[S.10] LOGIC-NL-Flan-T5-Large** 2026
  Tools: Python, Deep Learning, Hugging Face [🎯]
  ◦ Logic language model fine-tuned to classify syllogism veracity in natural language
  ◦ Trained on SemEval-2026 Task 11 dataset
  ◦ Publicly released on Hugging Face

- **[D.6] FOLIO-KR** 2026
  Tools: Python, Hugging Face [🎯]
  ◦ Implemented scripts for first-order logic transformation to knowledge representation languages
  ◦ Created custom formal knowledge representation languages
  ◦ Publicly released on Hugging Face

- **[S.9] SHADOW: LM-probing model for triple completion on Wikidata** 2024
  Tools: Python, SPARQL, Wikidata, Knowledge Graphs, Deep Learning, Hugging Face [🎯]
  ◦ Fine-tuned model on data
  ◦ Publicly released on Hugging Face

- **[S.8] FLAN-T5 small-WordNet: WordNet term classification with Wikidata semantic information** 2024
  Tools: Python, SPARQL, Wikidata, Knowledge Graphs, Deep Learning, Hugging Face [🎯]
  ◦ Extracted Wikidata semantic information
  ◦ Created semantic embedding vectors
  ◦ Fine-tuned model on data
  ◦ Publicly released on Hugging Face

- **[S.7] FLAN-T5 small-GeoNames: GeoNames term classification with Wikidata semantic information** 2024
  Tools: Python, SPARQL, Wikidata, Knowledge Graphs, Deep Learning, Hugging Face [🎯]
  ◦ Extracted Wikidata semantic information
  ◦ Created semantic embedding vectors
  ◦ Fine-tuned model on data
  ◦ Publicly released on Hugging Face

- **[D.5] WordNet Semantic Primes: Enriching WordNet data with Wikidata** 2024
  Tools: Python, SPARQL, MongoDB, Wikidata, Hugging Face [🎯]
  ◦ Created scripts to query Wikidata Knowledge Graph information
  ◦ Vectorized Knowledge Graph information
  ◦ Configured MongoDB to store and index vectors
  ◦ Publicly released on Hugging Face

- **[D.4] GeoNames Semantic Primes: Enriching GeoNames data with Wikidata** 2024
  Tools: Python, SPARQL, MongoDB, Wikidata, Hugging Face [🎯]
  ◦ Created scripts to query Wikidata Knowledge Graph information
  ◦ Vectorized Knowledge Graph information
  ◦ Configured MongoDB to store and index vectors
  ◦ Publicly released on Hugging Face

- **[P.5] KGstat: Knowledge Graph querying and machine learning modeling on data** 2023
  Tools: Python, R, SPARQL, Knowledge Graphs, Machine Learning [🎯]
  ◦ Applied statistical analysis for classification and regression cases on Knowledge Graph data
  ◦ Proposed machine learning models for improving classification and regression performance
  ◦ Evaluated used metrics for classification and regression

- **[S.6] PSYCHIC: Question-answering neuro-symbolic model on knowledge graphs with SPARQL** *2023*
  Tools: Python, SPARQL, Knowledge Graphs, Deep Learning, Hugging Face [O]
  - Fine-tuned model on data
  - Publicly released on Hugging Face

- **[S.5] Text Smoothing: Generative model for financial text rewriting** *2022*
  Tools: Python, Deep Learning, Hugging Face [O]
  - Created scripts for scraping and cleaning data pipeline
  - Tested model zero-shot configurations
  - Publicly released on Hugging Face

- **[S.4] Complete FNP T5 Data2Text: Complete T5-base data to text model specialized for finance NLG** *2022*
  Tools: Python, Deep Learning, Hugging Face [O]
  - Created scripts for scraping and cleaning data pipeline
  - Re-trained model on data
  - Publicly released on Hugging Face

- **[S.3] Simple FNP T5 Data2Text: Simple T5-base data to text model specialized for finance NLG** *2022*
  Tools: Python, Deep Learning, Hugging Face [O]
  - Created scripts for scraping and cleaning data pipeline
  - Fine-tuned model on data
  - Publicly released on Hugging Face

- **[D.3] FNP 2022 FinCausal: Data set for the FinCausal 2022 shared task** *2022*
  Tools: Python [O]
  - Performed data curation
  - Participated in inter-annotator agreement sessions
  - Created baseline models and scoring scripts

- **[S.2] FinISH: Financial term classification model for domain ontology classes** *2021*
  Tools: Python, Ontologies, Deep Learning, Hugging Face [O]
  - Created scripts for scraping and cleaning FIBO ontology
  - Augmented financial ontology terms with definitions
  - Fine-tuned model on data
  - Publicly released on Hugging Face

- **[S.1] Financial Relation Extraction: Classification model for type of relations in financial sentences** *2021*
  Tools: Python, Deep Learning, Hugging Face [O]
  - Created scripts for scraping and cleaning financial data pipeline
  - Extracted and normalized financial relations
  - Fine-tuned model on data
  - Publicly released on Hugging Face

- **[D.2] FNP 2021 FinCausal: Data set for the FinCausal 2021 shared task** *2021*
  Tools: Python [O]
  - Performed data curation
  - Participated in inter-annotator agreement sessions
  - Created baseline models and scoring scripts

- **[D.1] FNP 2020 FinCausal: Data set for the FinCausal 2020 shared task** *2020*
  Tools: Python [O]
  - Performed data curation
  - Participated in inter-annotator agreement sessions
  - Created baseline models and scoring scripts

- **[P.4] FuelMi: The pet that takes care of you** *2019*
  Tools: Python [O]
  - Designed application concept and intent
  - Implemented Python back-end functionalities for health and activity management
  - Pitched in front of live jury

- **[P.3] Lebanon Smart City Experience: First smart city in Lebanon at BeitMisk** *2017*
  Tools: Air Quality Sensors, Node-Red, PHP, MySQL, HTML5, MTTQ Protocol, Server-Side JavaScript [O]
  - Maintained and queried sensor log data in MySQL database
  - Created PHP query scripts to provide data insights for monitoring dashboard

◦ Updated HTML5 dashboard with insights on consumption tracking

◦ Developed custom Facebook chatbot with Node-Red and Watson NLP toolkit

• **[P.2] Ticketing System: Customizing Service Delivery** *2016*
Tools: Oracle RightNow Service Cloud, PHP, HTML5, CSS, JavaScript, ROQL, Google Scripts, Google Sheets [O]

◦ Implemented and configured ticketing system

◦ Managed user access and administration

◦ Created custom workflows for internal use

◦ Created and enabled custom views and reports

◦ Managed and customized web portal with HTML5, CSS and JavaScript

◦ Created custom project management time sheet with Google Sheets back-end and Google Scripts

◦ Maintained PHP scripts for updated ROQL real-time queries and ticket views

• **[P.1] Sales CRM System: Improving Customer Relationship Management Experience** *2016*
Tools: Oracle Sales Cloud, Groovy scripting, Microsoft Dynamics [O]

◦ Performed migration from Microsoft Dynamics to Oracle Sales Cloud

◦ Created custom views for users

◦ Managed user access and adlinistration

◦ Setup Single sign-on (SSO) with LDAP between Microsoft Active Directory and Oracle

◦ Created custom workflows and scripts for internal behavior

SUPERVISION   M=M.SC., P=PHD

• **[M.3] Claire Davat, Albin Brogialdi, Marius Akre, Florian Irrien, Luc Sagnes** *11/2024 - 04/2025*
Data ScienceTech Institute School of Engineering [O]

◦ Supervised DIRISI Hackathon project: "L'Intelligence Artificielle au cœur des réseaux"

◦ Ranked Second in the challenge

• **[M.2] Jannic Cutura** *06/2023 - 11/2023*
Data ScienceTech Institute School of Engineering [O]

◦ Supervised "Deep Learning" research project: Breaking the U: Asymmetric U-Net for Object Recognition in Muon Tomography

◦ Ranked Fourth in the IEEE BigData 2023 Cup: Object Recognition with Muon Tomography using Cosmic Rays challenge

◦ Paper publication in IEEE Conference Proceedings

• **[P.1] Célian Ringwald** *12/2022 - Current*
Université Côte d'Azur, Inria, CNRS, I3S [O]

◦ Supervised PhD thesis "Learning RDF pattern extractors for a language from dual Wikipedia/LOD databases"

• **[M.1] Jannic Cutura** *12/2022 - 04/2023*
Data ScienceTech Institute School of Engineering [O]

◦ Supervised "Python Machine Learning Labs" research project: Web Intelligence - Deduplication challenge

◦ Ranked First (reproducibility) and Second (accuracy) in the EuropeanStatisticsAwards challenge

◦ Prize money: 14,000 euros

SKILLS

• **Programming Languages:** Python, C, C++, Java, JavaScript, PHP, HTML5, CSS3

• **Web Technologies:** RDF, RDFS, OWL, SPARQL

• **Database Systems:** Microsoft SQL Server, MySQL, PostgreSQL, MongoDB, Neo4j

• **Data Science & Machine Learning:** Classification, Regression, Clustering, Reinforcement Learning

• **Cloud Technologies:** Amazon Web Services

• **DevOps & Version Control:** Git, SVN

• **Specialized Area:** Natural Language Processing, Knowledge Graphs, Computational Linguistics

• **Mathematical & Statistical Tools:** Matlab, Latex

• **Other Tools & Technologies:** Docker, Windows, Linux (bash scripting)

• **Project Management:** Agile methods (Scrum), Test-Driven Development

Honors and Awards

- **Second Place in the LLMs4OL challenge** — *2024*
  International Semantic Web Conference (ISWC) [🌐]
  ◦ Second in F1 score (97.16%) in SubTask A.1 (FS) - Term Typing - Wordnet

- **Third Place in the Scholarly-QALD challenge** — *2023*
  International Semantic Web Conference (ISWC) [🌐]
  ◦ Third in F1 score (71.00%) in DBLP-QuAD Entity Linking

- **Second Place in the IRSE shared task** — *2023*
  FIRE: Forum for Information Retrieval Evaluation [🌐]
  ◦ Second in F1 score increase (+1.5%)

- **Company Core Values Award Q3 Trust** — *2022*
  Yseop [🌐]
  ◦ Chosen by colleagues (80 employees)

- **Second place in the FinSim-3 shared task** — *2021*
  FinNLP [🌐]
  ◦ Second in Mean Rank (1.141) and Accuracy (91.70%) scores

- **Company Core Values Award Q1 Innovation** — *2021*
  Yseop [🌐]
  ◦ Chosen by colleagues (80 employees)

- **Second Place in the HackBordeaux Capgemini challenge** — *2019*
  Enseirb - Matmeca [🌐]
  ◦ Second for the FuelMi health application

- **Second Place in the National Instruments Elevator Competition** — *2011*
  American University of Beirut [🌐]
  ◦ Second in the Elevator Competition design challenge

- **Finalist in the International College School Poetry Competition** — *2010*
  International College [🌐]
  ◦ Finalist among 300 national participants

- **Recipient of the "Philippe Jabre Foundation Scholarship for Excelling Students"** — *2011-2015*
  American University of Beirut [🌐]
  ◦ Recipient for academic excellence

- **Recipient of the "Carlos Ghosn Foundation Scholarship for Excelling Students"** — *1997-2011*
  Collège Notre Dame de Jamhour [🌐]
  ◦ Recipient for academic excellence

Scientific Activities C=Conference, J=Journal, S=Special Session, T=Track, W=Workshop

- **[W.16] 20th International workshop on Neural-Symbolic Learning and Reasoning (NeSy)** — *2026*
  Reviewer [🌐]
- **[W.15] LLM-driven Knowledge Graph and Ontology Engineering (llms4kgoe) workshop at ESWC** — *2026*
  Reviewer [🌐]
- **[T.4] Late-Breaking Works and Demos Track at XAI** — *2026*
  Reviewer [🌐]
- **[T.3] Industry Track at EACL** — *2026*
  Reviewer [🌐]
- **[W.14] NORA workshop at NeurIPS** — *2025*
  Reviewer [🌐]
- **[T.2] Industry Track at EMNLP** — *2025*
  Reviewer [🌐]
- **[J.2] Engineering Applications of Artificial Intelligence** — *2025*
  Reviewer [🌐]
- **[W.13] Assessing World Models: Methods and Metrics for Evaluating Understanding workshop at ICML** — *2025*
  Reviewer [🌐]
- **[W.12] 19th International workshop on Neural-Symbolic Learning and Reasoning (NeSy)** — *2025*
  Reviewer [🌐]
- **[W.11] Representational Alignment workshop at ICLR** — *2025*
  Reviewer [🌐]
- **[J.1] Neurosymbolic Artificial Intelligence** — *2025*
  Reviewer [🌐]

- **[C.6] 3nd World Conference on eXplainable Artificial Intelligence (XAI)** *2025*
  Programme Committee [🌐]
- **[T.1] Industry Track at EMNLP** *2024*
  Reviewer [🌐]
- **[W.10] NeurIPS workshop on Behavioral Machine Learning** *2024*
  Reviewer [🌐]
- **[S.1] Harmonising Generative AI and Semantic Web Technologies at ISWC** *2024*
  Programme Committee [🌐]
- **[W.9] Large Language Models and Cognition workshop at ICML** *2024*
  Reviewer [🌐]
- **[C.5] 4th International Conference on NLP & Data Mining (NLDM)** *2024*
  Programme Committee [🌐]
- **[C.4] 10th International Conference on Computer Science and Information Technology (CSTY)** *2024*
  Programme Committee [🌐]
- **[C.3] 2nd World Conference on eXplainable Artificial Intelligence (XAI)** *2024*
  Programme Committee [🌐]
- **[C.2] 5th International conference on Advanced Natural Language Processing (AdNLP)** *2024*
  Programme Committee [🌐]
- **[W.8] 18th International workshop on Neural-Symbolic Learning and Reasoning (NeSy)** *2024*
  Programme Committee [🌐]
- **[C.1] 2nd International Conference on NLP & AI (NLPAI)** *2024*
  Programme Committee [🌐]
- **[W.7] Neuro-Symbolic Learning and Reasoning in the Era of Large Language Models workshop at AAAI** *2024*
  Reviewer [🌐]
- **[W.6] 17th International workshop on Neural-Symbolic Learning and Reasoning (NeSy)** *2023*
  Programme Committee [🌐]
- **[W.5] Neurosymbolic Generative Models (NeSy-GeMs) workshop at ICLR** *2023*
  Programme Committee [🌐]
- **[W.4] 5th Financial Narrative Processing (FNP) workshop** *2023*
  Programme Committee [🌐]
- **[W.3] FinCausal shared task at The 4nd Financial Narrative Processing (FNP) workshop** *2022*
  Organizer [🌐]
- **[W.2] FinCausal shared task at The 3nd Financial Narrative Processing (FNP) workshop** *2021*
  Organizer [🌐]
- **[W.1] FinCausal shared task at The 2nd Financial Narrative Processing (FNP) workshop** *2020*
  Organizer [🌐]

TEACHING ACTIVITIES B=B.S., M=M.Sc.

- **[M.13] Programming, Databases, and Machine Learning Foundations for Decision-Makers** *2025-*
  SciencesPo Paris School of International Affairs [🌐]
  - Language: English
  - Number of hours: 24
  - Description: A practical introduction to computational tools and thinking that covers the basics of programming, data management, and machine learning, equipping students with skills to work with data in modern research and policy contexts

- **[M.12] Computer Architecture** *2025-*
  Data ScienceTech Institute School of Engineering [🌐]
  - Language: English
  - Number of hours: 5
  - Description: Fundamentals of computer architecture & operating systems, from the Turing machine to (not so) modern architectures, fundamentals of hardware architectures from the BIOS/UEFI via the kernel to the shell

- **[M.11] Data Management** *2024-2025*
  Data ScienceTech Institute School of Engineering [🌐]
  - Language: English
  - Number of hours: 5
  - Description: Fundamentals of information systems analysis & design, functional dependency, relation model & relational algebra

- **[M.10] Operating Systems and Networking** *2024-2025*
  Data ScienceTech Institute School of Engineering [🌐]
  - Language: English
  - Number of hours: 5

- Description: Fundamentals of algorithmics and data structure design, network layers, routing & protocols, address spaces and associated service with the TCP/IP suite

- **[B.1] Relational Model and SQL** *2023-2026*
  Data ScienceTech Institute School of Engineering [🌐]
  - Language: French, English
  - Number of hours: 25
  - Description: Introduction to the relational model, relational algebra operations, normal forms, database system design & SQL queries

- **[M.9] Deep Learning** *2023-2025*
  Data ScienceTech Institute School of Engineering [🌐]
  - Language: English
  - Number of hours: 25
  - Description: PyTorch introduction, GPU training, neural network applications (computer vision, natural language processing, reinforcement learning)

- **[M.8] Artificial Neural Networks** *2023-2025*
  Data ScienceTech Institute School of Engineering [🌐]
  - Language: English
  - Number of hours: 25
  - Description: Shallow & deep artificial neural networks, data representation & distributed representations, backpropagation & gradient descent, training & optimization, Python applications (Tensorflow & Keras)

- **[M.7] Amazon AWS** *2023-2025*
  Data ScienceTech Institute School of Engineering [🌐]
  - Language: English
  - Number of hours: 50
  - Description: Introduction to cloud computing, cloud architecture, preparation for the "AWS Certified Solutions Architect – Associate" certification

- **[M.6] Data Wrangling with SQL** *2023-2025*
  Data ScienceTech Institute School of Engineering [🌐]
  - Language: English
  - Number of hours: 25
  - Description: Review of relational models & database management systems, advanced SQL queries, dynamic SQL, stored procedures & triggers

- **[M.5] AI Awareness** *2023-2025*
  Data ScienceTech Institute School of Engineering [🌐]
  - Language: English
  - Number of hours: 5
  - Description: Learning processes in living organisms and computers, AI ethics and challenges

- **[M.4] Software Engineering - Part 2** *2021-2025*
  Data ScienceTech Institute School of Engineering [🌐]
  - Language: English
  - Number of hours: 25
  - Description: Python object-oriented programming, overview of C++

- **[M.3] Python Machine Learning Labs** *2021-2025*
  Data ScienceTech Institute School of Engineering [🌐]
  - Language: English
  - Number of hours: 25
  - Description: Data structures, cleaning & preparation, Python libraries, feature engineering, machine learning algorithms, classification & regression

- **[M.2] Introduction to Data Structures & Software Engineering** *2021-2022*
  Data ScienceTech Institute School of Engineering [🌐]
  - Language: English
  - Number of hours: 10
  - Description: Introduction to data structures, benchmarks in Python & R, introduction to data simulation

- **[M.1] Clean IT** *2021-2025*
  Data ScienceTech Institute School of Engineering [🌐]
  - Language: English
  - Number of hours: 5
  - Description: Introduction to Google Colab, Python local setup, virtual environments, IDE configuration, R & RStudio, Git & GitHub

- **[B.9] Game Theory** *09/2024*
  Amazon Kindle Direct Publishing
  [⊕]
- **[A.6] The Poetryhood** *2024*
  The Poetryhood
  [⊕]
- **[J.33] What's in a Name?** *2024*
  The Paris Institute For Critical Thinking
  [⊕]
- **[A.5] We Call to the Eye & the Night Love Poems by Writers of Arab Heritage** *2023*
  Persea Books
  [⊕]
- **[J.32] Winter 2023/24** *2023*
  The Paradox Literary Magazine
  [⊕]
- **[J.31] Issue 7** *2023*
  Indelible Lit
  [⊕]
- **[J.30] Volume 1 Issue 3** *2023*
  The Literatus
  [⊕]
- **[J.29] Issue 4** *2023*
  Tap into Poetry
  [⊕]
- **[B.8] Titans** *08/2023*
  Amazon Kindle Direct Publishing
  [⊕]
- **[J.28] The Three Pillars of AI: Symbols, Neurons, and Graphs** *2022*
  The AI Journal
  [⊕]
- **[J.27] The Three Pillars of AI: Symbols, Neurons, and Graphs** *2022*
  The AI Journal
  [⊕]
- **[A.4] Winter** *2022*
  Poets Choice
  [⊕]
- **[A.3] Impressions of Love** *2022*
  Pencil
  [⊕]
- **[B.7] Memory** *08/2022*
  Waterton Publishing Company
  [⊕]
- **[J.26] Featured Writer** *2022*
  Cajun Mutt Press
  [⊕]
- **[J.25] Spring 2022** *2022*
  New Note Poetry
  [⊕]
- **[J.24] Issue 4** *2022*
  The Pine Cone Review
  [⊕]
- **[J.23] Poem** *2022*
  Rusted Radishes
  [⊕]
- **[J.22] Issue VII** *2022*
  The Closed Eye Open
  [⊕]
- **[J.21] Issue 1** *2021*
  BEATIFIC
  [⊕]
- **[J.20] Poem** *2021*
  Jasad
  [⊕]
- **[J.19] Poem** *2021*
  Salad Days
  [⊕]
- **[J.18] Poem** *2021*
  Sledgehammer Lit
  [⊕]
- **[B.6] Correspondence** *08/2021*
  Waterton Publishing Company
  [⊕]
- **[B.5] Stems from the Edge of Silence** *05/2020*
  Waterton Publishing Company
  [⊕]
- **[J.17] Clogs** *2020*
  Jellyfish Review
  [⊕]
- **[J.16] Terminal One** *2020*
  Unite the World
  [⊕]
- **[J.15] Issue 13** *2020*
  Emerge Literary Journal
  [⊕]
- **[J.14] Poems** *2020*
  Kreaxxxion Review
  [⊕]
- **[J.13] Poem** *2020*
  Hamline Lit
  [⊕]

- **[J.12] Poem** *2020*
  Former People [🌐]
- **[J.11] Issue 1.7** *2020*
  FEED Lit Magazine [🌐]
- **[J.10] Poem** *2020*
  Open Arts Forum [🌐]
- **[J.9] Volume 4** *2020*
  Press Pause Press [🌐]
- **[J.8] Poems** *2020*
  Spillwords Press [🌐]
- **[J.7] Issue 34** *2020*
  Poet Speak Magazine [🌐]
- **[J.6] Poem** *2020*
  Poetry Potion [🌐]
- **[J.5] Poem** *2020*
  Oddball Magazine [🌐]
- **[J.4] Issue 137** *2020*
  Red Fez [🌐]
- **[J.3] Volume 3 Issue 2** *2019*
  Ink In Thirds [🌐]
- **[B.4] It's a Big Big World** *07/2019*
  Waterton Publishing Company [🌐]
- **[A.2] And We Chose Everything** *2018*
  Turning Point Books [🌐]
- **[B.3] Vitality** *12/2018*
  Waterton Publishing Company [🌐]
- **[B.2] Diary In Poems** *04/2018*
  G&J Productions [🌐]
- **[B.1] A Road Away From Home** *01/2017*
  G&J Productions [🌐]
- **[A.1] One Hundred Voices: Volume One** *2016*
  Allegiant Publishing Group [🌐]
- **[J.2] Paying Dues** *2016*
  Talking Soup [🌐]
- **[J.1] Volume 2 Issue IX** *2015*
  The Rain, Party, & Disaster Society [🌐]

VOLUNTEER EXPERIENCE

- **First Aid Training** *07/2023 - 08/2023*
  Protection Civile Paris Seine
  ◦ Passed the "PSC1 - Prévention et Secours Civiques de niveau 1" certification

- **Mentor** *06/2022 - 02/2023*
  JobIRL L'orientation In Real Life
  ◦ Mentorship and job orientation for students looking to enter the data field

- **Mentor** *09/2021 - 02/2023*
  Social Builder
  ◦ Mentor in the Women in Digital (WID) program
  ◦ Mentor in the Adabot program

- **Corporate Social Responsibility Member** *03/2021 - 02/2023*
  Yseop
  ◦ Member of the CSR team
  ◦ Responsible for motivating local and global company initiatives
  ◦ Liaison with associations and organizations

- **Ambassador** *01/2020 - 02/2023*
  Data ScienceTech Institute School of Engineering
  ◦ Student mentorship and job orientation

- **Editor** *07/2020 - 12/2020*
  Kiss My Poetry
  ◦ Content selection and front-page editor

- **Volunteer** *03/2020 - 07/2020*
  Greater Paris University Hospitals - AP-HP

◦ Data Science volunteer for COVID-19 data analysis tasks

• **Ambassador** *07/2018 - 12/2022*
Beirut Poetics
◦ Ambassador of the Beirut Poetics Lebanon branch journal
◦ Local poetry event organization and engagement of community members
◦ Promotion of cultural outreach of poetry

PROFESSIONAL MEMBERSHIPS

• **Procedural Memory Knowledge Representation W3C Community Group**	*2026 - Present*
• **Web&AI W3C Community Group**	*2026 - Present*
• **Global Network on Large-Scale Cross-domain and Multilingual Open Knowledge Graphs**	*2025 - Present*
• **Neuro-symbolic AI Interest Group at the Alan Turing Institute**	*2024 - Present*
• **Cognitive AI W3C Community Group**	*2024 - Present*
• **Artificial Intelligence Knowledge Representation W3C Community Group**	*2024 - Present*
• **Knowledge Graph Construction W3C Community Group**	*2024 - Present*
• **Knowledge Graphs Interest Group at the Alan Turing Institute**	*2024 - Present*
• **GDR RADIA**	*2024 - Present*
• **Association for Computational Linguistics**	*2022 - Present*

CERTIFICATIONS

• **IBM:** Neuro-Symbolic AI Essentials	*08/2022*
• **Neo4j:** Certified Professional	*07/2022*
• **Udacity:** Machine Learning DevOps Engineer	*05/2022*
• **Hasso Plattner Institute:** Knowledge Graphs	*03/2022*
• **Neo4j:** Graph Data Science Certified	*05/2022*
• **Massachusetts Institute of Technology:** Minds and Machines	*02/2021*
• **Udacity:** Deep Reinforcement Learning	*01/2021*
• **Leiden University:** Miracles of Human Language: An Introduction to Linguistics	*11/2020*
• **Ecole Polytechnique Federale de Lausanne:** Computational Neuroscience	*10/2020*
• **Saint Petersburg State University:** Neurolinguistics	*10/2020*
• **The University of Edinburgh:** Philosophy and the Sciences	*10/2020*
• **HSE University:** Towards language universals through lexical semantics	*10/2020*
• **CentraleSupélec:** Analysez vos données textuelles	*08/2019*
• **Université Grenoble Alpes:** Introduction à la linguistique de corpus	*07/2019*
• **AWS Academy:** Academy Cloud Computing Architecture	*12/2018*
• **Udacity:** Artificial Intelligence	*07/2017*

ADDITIONAL INFORMATION

Languages: English (Native), French (Native), Arabic (Native)
Interests: Literature (Fiction, Philosophy, Classics, Computer Science), Musical Instruments (Electric Guitar), Sports (Football, Basketball, Running, Hiking, Tennis)
Miscellaneous: French driving license

REFERENCES

1. **Fabien Gandon**
   Senior Researcher in Informatics and Computer Science, Wimmics
   INRIA
   Email: fabien.gandon@inria.fr
   Relationship: PhD Supervisor

2. **Catherine Faron**
   Scientific Leader, Wimmics
   INRIA
   Email: faron@i3s.unice.fr
   Relationship: PhD Supervisor

3. **Sebastien Corniglion**
   Chief Executive Officer (CEO) and Dean
   Data ScienceTech Institute School of Engineering
   Email: sebastien.corniglion@dsti.institute
   Relationship: Direct Manager

4. **Dominique Mariko**
   VP AI and Data Science
   Yseop
   Email: dominique.mariko@dsti.institute
   Relationship: Former Team Leader