Hanna Abi Akl

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SUMMARY

I am a PhD student in logic, language and computation at INRIA. 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

- **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 - Current*
  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

- **INRIA - Université Côte d'Azur** — *01/2025 - 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
  ◦ Keywords: Logical Reasoning, Neuro-symbolic Artificial Intelligence, Knowledge Graphs, Ontologies, Natural Language Processing, Semantic Web
  ◦ Summer Schools: ESSAI 2025, Reasoning Web 2025

- **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

[S.1] **Hanna Abi Akl**, et al (2025). **Investigating Language Model Capabilities to Represent and Process Formal Knowledge: A Preliminary Study to Assist Ontology Engineering**. Manuscript submitted for publication in *Declarative AI 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.

[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.

PROJECTS
D=DATA, P=PROJECT, S=SOFTWARE

- **[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 [**O**]
  - 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 [**O**]
  - 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 [**O**]
  - 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 [**O**]
  - 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

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

- **[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.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** *2023-2025*
  Data ScienceTech Institute School of Engineering [🌐]
  ◦ Language: French
  ◦ 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** *2023-2024*
  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

LITERARY PUBLICATIONS A=ANTHOLOGY, B=BOOK, J=JOURNAL

• **[B.9] Game Theory** *09/2024*
Amazon Kindle Direct Publishing [🌐]
• **[A.5] The Poetryhood** *2024*
The Poetryhood [🌐]
• **[J.33] What's in a Name?** *2024*
The Paris Institute For Critical Thinking [🌐]
• **[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 [🌐]

- **[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

- **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), 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. **Sebastien Corniglion**
   Chief Executive Officer (CEO) and Dean
   Data ScienceTech Institute School of Engineering
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   Relationship: Direct Manager

3. **Dominique Mariko**
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   Yseop
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   Relationship: Former Team Leader