

# Hanna Abi Akl

Professor & Researcher in Artificial Intelligence

## Personal Information

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## Summary

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I am a scholar in logic, language, computation and neuro-symbolic artificial intelligence. My main areas of research are mapping language to symbolic structures, logic-based reasoning and graph-based knowledge representation methods in AI. I work as an AI & NLP Researcher and teach at Data ScienceTech Institute. I also enjoy writing poetry and novels.

## Education

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<b>Oct 2018 - Sep 2019</b>	<b>M.Sc., Data Science and Artificial Intelligence</b> <b>Data ScienceTech Institute, Paris, France</b> Graduation Summa Cum Laude Second prize at HackBordeaux 2019 Capgemini challenge (FuelMi)
<b>Sep 2011 - May 2015</b>	<b>B.E., Computer and Communications Engineering (Software Engineering concentration) 09/2011 to 05/2015</b> <b>American University of Beirut, Beirut, Lebanon</b>

Dean's Honor List for Spring Semester 2015  
Second prize in National Instruments elevator design challenge  
Recipient of the Philippe Jabre Association scholarship for excellence

**Sep 1998 - Jun 2011**

**High School Diploma (General Sciences)**

**Collège Notre Dame de Jamhour, Beirut, Lebanon**

Graduation with high distinction in French and Lebanese Baccalaureates  
Recipient of the Carlos Ghosn scholarship for excellence

## Employment

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**Feb 2023 - Present**

**External Scientific Collaborator**

**INRIA, Nice, Provence-Alpes-Côte d'Azur, 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

**Feb 2023 - Present**

**Vice-Dean and Research Professor**

**Data ScienceTech Institute, 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

Technical liaison between students and Direction of Studies team

Improvement of programme structure and evaluation (Bachelors and Masters level)

Responsible for faculty recruitment interviews

**Apr 2019 - Feb 2023**

**Data Scientist & Machine Learning Engineer**

**Yseop, 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

Patent writing for intelligent tools responsible for financial reporting automation

Co-chair in the COLING 2020, COLING 2021 and FNP 2022 workshops

Second prize in the FinSim-3 2021 shared task

Winner of the Yseop Q1 2021 Innovation and Q3 2022 Trust Company Core Values Awards

**Sep 2021 - Feb 2023**

**Course Instructor**

**Data ScienceTech Institute, Paris, France**

Teaching activities: Clean IT, Software Engineering, Machine Learning Labs

**Jan 2019 - Apr 2019**

**Private Tutor**

**Paris, France**

Preparing students for the "AWS Certified Solutions Architect – Associate" certification exam

**Jun 2015 - Aug 2018**

**Data Integration Engineer**

**Data Consult, 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)

**Jul 2014 - Aug 2014**

**Site Implementation and Maintenance (SI&M) Engineering Intern**

**Touch, Beirut, Lebanon**

Theoretical research on the development and advancement of 4G technology

**Jun 2012 - Dec 2013**

**Research Assistant**

**American University of Beirut, Beirut, Lebanon**

Benchmarking and optimization of Alaoui filter and integrator model parameters in Matlab

**Sep 2011 - Sep 2015**

**Private Tutor**

**Beirut, Lebanon**

Teaching middle school and high school subjects

## **Skills**

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**Software and Web development:** C,

C++, Java, JavaScript, Python,

HTML5, CSS3

**DBMS:** Microsoft SQL Server,

MySQL, Postgres, Neo4j

**Semantic Web:** RDF, RDFS, OWL,

SPARQL

**Machine & Deep Learning:** Classification, Regression, Clustering, Reinforcement Learning

**Version control:** Git, SVN

**Containerization:** Docker

**Software:** Matlab, Latex

**Operating systems:** Windows, Linux (bash scripting)

**Project management:** Agile methods (Scrum), Test Driven Development

**Cloud Architecture:** AWS

## Languages

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**English** Fluent

**French** Fluent

**Arabic** Fluent

## Hobbies

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■ Music: Electric Guitar

■ Reading: Poetry, Literary Fiction, Philosophy, Psychology, Science Fiction, Thrillers, Classical, Computer Science, Mathematics

■ Sports: Running, Hiking, Tennis

## Community Service

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**Dec 2023 - May 2024**

**Program Committee Reviewer**

**NLP & AI (NLP&AI) 2024, Virtual Conference**

Reviewing paper submissions

**Nov 2023 - Feb 2024**

**Program Committee Reviewer**

**NuCLear@AAAI 2024 (Neuro-Symbolic Learning and Reasoning in the era of Large Language Models), Vancouver, Canada**

Reviewing paper submissions

**Sep 2023 - Jan 2024**

**Contributing Author**

**The Paris Institute**

**for Critical**

**Thinking**

Author of the article "What's in a Name?"

<b>Jul 2023 - Jul 2023</b>	<b>First Aid Training</b> <b>Protection Civile Paris Seine, Paris, France</b> Passed the "PSC1 - Prévention et Secours Civiques de niveau 1" civilian first respondent and rescue certification
<b>Jun 2023 - Jun 2023</b>	<b>Conference Presenter</b> <b>The Science and Information (SAI) Organization, London, United Kingdom</b> Presentation of the paper "The Path to Autonomous Learners" at the Computing Conference
<b>Jul 2023 - Jul 2023</b>	<b>Program Committee Reviewer</b> <b>NeSy 2023 (International Workshop on Neural-Symbolic Learning and Reasoning), Siena, Italy</b> Reviewing paper submissions
<b>May 2023 - May 2023</b>	<b>Program Committee Reviewer</b> <b>NeSy-GeMs@ICLR 2023, Kigali, Rwanda</b> Reviewing paper submissions
<b>Jun 2022 - Feb 2023</b>	<b>Mentor</b> <b>JobIRL L'orientation In Real Life, Paris, France</b> Mentorship and job orientation for students looking to enter the data field
<b>Sep 2022 - Oct 2022</b>	<b>Contributing Author</b> <b>AI Time Journal</b> Author of the article "The Three Pillars of AI: Symbols, Neurons, and Graphs"
<b>Sep 2022 - Oct 2022</b>	<b>Contributing Author</b> <b>The AI Journal</b> Author of the article "The Three Pillars of AI: Symbols, Neurons, and Graphs"
<b>Feb 2022 - Feb 2022</b>	<b>Contributing Author</b> <b>Poets Choice</b> Featured author in the "Winter" anthology
<b>Sep 2021 - Feb 2023</b>	<b>Mentor</b> <b>Social Builder, Paris, France</b> Mentor in the Women in Digital (WID) program Mentor in the Adabot program
<b>Mar 2021 - Feb 2023</b>	<b>Corporate Social Responsibility Member</b> <b>Yseop, Paris, France</b> Member of the CSR team Responsible for motivating local and global company initiatives Liaison with associations and organizations

**Jan 2020 - Feb 2023**

**Ambassador**

**Data ScienceTech Institute, Paris, France**

Mentorship and job orientation for students

**Aug 2015 - Present**

**Contributing Author**

Featured author in notable literary magazines and anthologies:

- The RainPartyDisaster Society
- Talking Soup
- Coffee with Underhill
- Peeking Cat Poetry
- Oddball
- Poetry Potion
- Ten Million Flies
- Kiss My Poetry
- Open Arts Forum
- Clock Radio
- Spillwords
- Hamline Lit Link
- Ink In Thirds
- Poets Choice
- The Pencil App
- Poets Speak
- Red Fez
- Straight Forward Poetry
- Rusted Radishes
- Kissing Dynamite Poetry
- The Dead Magpie
- KREAXXION Review

**Feb 2021 - Sep 2021**

**Committee Member**

**The Financial Narrative Processing (FNP) Workshop, Virtual Conference**

Co-chair of FinCausal 2021 Shared Task

**Nov 2020 - Present**

**Contributing Author & Lifetime Member**

**Paris Institute for Critical Thinking, Paris, France**

Featured author in "The Thinking Cap"

**Jan 2020 - Dec 2020**

**Committee Member**

**COLING 2020, Virtual Conference**

Co-chair of FinCausal 2020 Shared Task

**Jul 2020 - Dec 2020**

**Journal Editor**

**Kiss My Poetry**

Content selection and front-page editor

**Mar 2020 - Jul 2020**

**Volunteer**

**Greater Paris University Hospitals - AP-HP, Paris, France**

Data Science volunteer for COVID-19 data analysis tasks

**Jan 2020 - Jan 2020**

**Contributing Author**

**Unite the World**

Author of the poem "Written on the Night of the Lebanese Revolution"

**Oct 2018 - Oct 2018**

**Contributing Author**

**Turning Point Books, Beirut, Lebanon**

Featured author in the "And We Chose Everything" anthology

**Jul 2018 - Dec 2022**

**Ambassador**

**Beirut Poetics**

Ambassador of the Beirut Poetics Lebanon branch journal

Organizing poetry events

Engaging community members

Promoting cultural outreach of poetry

**Oct 2016 - Dec 2016**

**Contributing Author**

**Centum Press**

Featured author in the "One Hundred Voices: Volume One" anthology

## Awards

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- Third Place in the Scholarly-QALD challenge at ISWC (2023)
- Second Place in the IRSE at FIRE shared task (2023)
- Yseop Company Core Values Award Q3 Trust (2022)
- Second place in the FinSim-3 shared task (2021)
- Yseop Company Core Values Award Q1 Innovation (2021)
- Second Place in HackBordeaux Capgemini challenge (2019)
- Second Place in the National Instruments Elevator Competition (2011)
- Finalist in the International College School Poetry Competition (2010)
- Obtained the national Lebanese examination (Brevet) with Distinction (2008)
- Recipient of the "Philippe Jabre Foundation Scholarship for Excelling Students" (2011-2015)
- Recipient of the "Carlos Ghosn Foundation Scholarship for Excelling Students" (1997-2011)

## Scientific Publications

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- Célian Ringwald, Fabien Gandon, Catherine Faron, Franck Michel, Hanna Abi Akl. Well-Written Knowledge Graphs. AAAI. 2024.
- Hanna Abi Akl. "PSYCHIC: A Neuro-Symbolic Framework for Knowledge Graph Question-Answering Grounding." The Scholarly-QALD challenge at the International Semantic Web Conference. 2023.

- Hanna Abi Akl. "A ML-LLM pairing for better code comment classification." Information Retrieval in Software Engineering track at Forum for Information Retrieval Evaluation. 2023.
- Célian Ringwald, Fabien Gandon, Catherine Faron, Franck Michel, Hanna Abi Akl. Learning RDF pattern extractors from natural language and knowledge graphs-application to Wikipedia and the LOD. ISWS 2023 & GEMSS. 2023.
- Hanna Abi Akl, Hugues de Mazancourt, Dominique Mariko, Valentin Pierart. Systems and methods for measuring automatability of report generation using a natural language generation system. U.S. Patent No. 11,734,517. 2023.
- Dominique Mariko, Hanna Abi Akl, Hugues de Mazancourt. Techniques for generating natural language text customized to linguistic preferences of a user. U.S. Patent No. 11,501,088. 2022.
- Hanna Abi Akl. "The Path to Autonomous Learners." Science and Information Conference, Cham: Springer Nature Switzerland. 2023.
- Rami Bou Khalil, Ramez Dagher, Myriam Zarzour, Ghassan Sleilaty, Hanna Abi Akl, Maya Kallab, Sami Richa. "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". Current Psychology, 1-11. 2022.
- Hanna Abi Akl, Dominique Mariko, Hugues De Mazancourt. "Yseop at FinSim-3 Shared Task 2021: Specializing Financial Domain Learning with Phrase Representations." Proceedings of the Third Workshop on Financial Technology and Natural Language Processing. 2021.
- Anubhav Gupta, Hanna Abi Akl, Hugues De Mazancourt. "Not All Titles are Created Equal: Financial Document Structure Extraction Shared Task." Proceedings of the 3rd Financial Narrative Processing Workshop. 2021.
- Dominique Mariko, Hanna Abi Akl, Estelle Labidurie, Stéphane Durfort, Hugues de Mazancourt, Mahmoud El-Haj. "The Financial Document Causality Detection Shared Task (FinCausal 2021)." Proceedings of the 3rd Financial Narrative Processing Workshop. 2021.
- Dominique Mariko, Estelle Labidurie, Yagmur Ozturk, Hanna Abi Akl, Hugues de Mazancourt. "Data Processing and Annotation Schemes for FinCausal Shared Task." arXiv preprint arXiv:2012.02498 (2020).
- Hanna Abi Akl, Dominique Mariko, Estelle Labidurie. "Yseop at SemEval-2020 Task 5: Cascaded BERT Language Model for Counterfactual Statement Analysis." Proceedings of the Fourteenth Workshop on Semantic Evaluation. 2020.
- Hanna Abi Akl, Anubhav Gupta, Dominique Mariko. "Fintoc-2019 shared task: Finding title in text blocks." Proceedings of the Second Financial Narrative Processing Workshop (FNP 2019). 2019.

## Scientific Patents

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- Hanna Abi Akl, Hugues de Mazancourt, Dominique Mariko, Valentin Pierart. Systems and methods for measuring automatability of report generation using a natural language generation system. U.S. Patent No. 11,734,517. 2023.
- Dominique Mariko, Hanna Abi Akl, Hugues de Mazancourt. Techniques for generating natural language text customized to linguistic preferences of a user. U.S. Patent No. 11,501,088. 2022.

## Literary Publications

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- Titans (Amazon Kindle Direct Publishing · Aug 1, 2023)
- Memory (Waterton Publishing Company · Aug 16, 2022)
- Correspondence (Waterton Publishing Company · Aug 1, 2021)
- Stems from the Edge of Silence (Waterton Publishing Company · May 1, 2020)
- It's a Big Big World (Waterton Publishing Company · Jul 29, 2019)
- Vitality (Waterton Publishing Company · Dec 15, 2018)
- Diary In Poems (G&J Productions · Apr 1, 2018)
- A Road Away From Home (G&J Productions · Jan 1, 2017)



## Certificates

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<b>Aug 2022</b>	<b>IBM</b> Neuro-Symbolic AI Essentials
<b>Jul 2022</b>	<b>Neo4j</b> Certified Professional
<b>May 2022</b>	<b>Udacity</b>  Machine Learning DevOps Engineer
<b>Mar 2022</b>	<b>Hasso Plattner Institute</b>  Knowledge Graphs
<b>Mar 2022</b>	<b>Neo4j</b>  Graph Data Science Certified
<b>Feb 2021</b>	<b>MIT</b> Minds and Machines
<b>Jan 2021</b>	<b>Udacity</b> Deep Reinforcement Learning
<b>Nov 2020</b>	<b>Leiden University</b> Miracles of Human Language: An Introduction to Linguistics
<b>Oct 2020</b>	<b>EPFL (École polytechnique fédérale de Lausanne)</b> BIO465.2x: Computational Neuroscience: Neuronal Dynamics of Cognition
<b>Oct 2020</b>	<b>Saint Petersburg State University</b>  Neurolinguistics
<b>Oct 2020</b>	<b>The University of Edinburgh</b> Philosophy and the Sciences: Introduction to the Philosophy of Cognitive Sciences
<b>Oct 2020</b>	<b>National Research University — Higher School of Economics</b> Towards language universals through lexical semantics: introduction to lexical and semantic typology
<b>Aug 2019</b>	<b>CentraleSupélec</b> Analysez vos données textuelles
<b>Jul 2019</b>	<b>Université Grenoble Alpes</b>  Introduction à la linguistique de corpus

