

Hanna Abi Akl

Professor & Researcher in Artificial Intelligence

Personal Information

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Summary

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

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

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

Chief Academic Officer 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

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

English Fluent

French Fluent

Arabic Fluent

Hobbies

■ Music: Electric Guitar

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

■ Sports: Running, Hiking, Tennis

Community Service

Jan 2024 - Present

Member

Association for Computational Linguistics

Member of the ACL organization

Oct 2023 - Present

Member

The Alan Turing Institute

Member of the Knowledge Graphs and Neuro-symbolic AI interest groups

Sep 2023 - Present

Member

W3C

Member of the Cognitive AI, AI KR and Knowledge Graph Construction community

groups

Apr 2024 - Aug 2024

Program Committee Reviewer
NLDM 2024, Chennai, India

Reviewing paper submissions

Apr 2024 - Jul 2024

Program Committee Reviewer
CSTY 2024, Toronto, Canada

Reviewing paper submissions

Mar 2024 - Jul 2024

Program Committee Reviewer
XAI 2024, Valletta, Malta

Reviewing paper submissions

Mar 2024 - May 2024

Program Committee Reviewer
AdNLP 2024, Vancouver, Canada

Reviewing paper submissions

Feb 2024 - Sep 2024

Program Committee Reviewer
NeSy 2024, Barcelona, Spain

Reviewing paper submissions

Dec 2023 - May 2024

Program Committee Reviewer
NLP & AI (NLPAI) 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?"

Jul 2023 - Jul 2023

First Aid Training
Protection Civile Paris Seine, Paris, France

Passed the "PSC1 - Prévention et Secours Civiques de niveau 1" civilian first respondent and rescue certification

Jun 2023 - Jun 2023

Conference Presenter
The Science and Information (SAI) Organization, London, United Kingdom

Presentation of the paper "The Path to Autonomous Learners" at the Computing Conference

Jul 2023 - Jul 2023

Program Committee Reviewer

NeSy 2023 (International Workshop on Neural-Symbolic Learning and Reasoning), Siena, Italy

Reviewing paper submissions

May 2023 - May 2023

Program Committee Reviewer

NeSy-GeMs@ICLR 2023, Kigali, Rwanda

Reviewing paper submissions

Jun 2022 - Feb 2023

Mentor

JobIRL L'orientation In Real Life, Paris, France

Mentorship and job orientation for students looking to enter the data field

Sep 2022 - Oct 2022

Contributing Author

AI Time Journal

Author of the article "The Three Pillars of AI: Symbols, Neurons, and Graphs"

Sep 2022 - Oct 2022

Contributing Author

The AI Journal

Author of the article "The Three Pillars of AI: Symbols, Neurons, and Graphs"

Feb 2022 - Feb 2022

Contributing Author

Poets Choice

Featured author in the "Winter" anthology

Sep 2021 - Feb 2023

Mentor

Social Builder, Paris, France

Mentor in the Women in Digital (WID) program

Mentor in the Adabot program

Mar 2021 - Feb 2023

Corporate Social Responsibility Member

Yseop, Paris, France

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

- 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

- Célian Ringwald, Fabien Gandon, Catherine Faron, Franck Michel, Hanna Abi Akl. 12 shades of RDF: Impact of Syntaxes on Data Extraction with Language Models. ESWC 2024.
- Hanna Abi Akl. NeSy is alive and well: A LLM-driven symbolic approach for better code comment data generation and classification. GeNeSy at ESWC 2024.
- 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

- 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

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

