Hanna Abi Akl

Professor & Researcher in Artificial Intelligence

Personal Information

Name	Hanna Abi Akl
Email address	hannaabiakl8@gmail.com
Phone number	+33618086784
Address	6 rue edouard henriot, 77420 Champs Sur Marne, France
Gender	Male
Nationality	Lebanese
Website	hannaabiakl.github.io
LinkedIn	linkedin.com/in/hannaabiakl
Github	HannaAbiAkl
ORCID ID	0000-0001-9829-7401

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

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	**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 2013	**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	Excellent
DBMS: Microsoft SQL Server, MySQL, Postgres, Neo4j	Excellent
Semantic Web: RDF, RDFS, OWL, SPARQL	Excellent
Machine & Deep Learning	Excellent

Version control: Git, SVN	Excellent
Containerization: Docker	Excellent
Software: Matlab, Latex	Excellent
Operating systems: Windows, Linux (bash scripting)	Excellent
Project management: Agile methods (Scrum), Test Driven Development	Excellent
Cloud Architecture: AWS	Excellent

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

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
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"

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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
- KREAXXXION 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

- Abi Akl, Hanna. "PSYCHIC: A Neuro-Symbolic Framework for Knowledge Graph Question-Answering Grounding." The Scholarly-QALD challenge at the International Semantic Web Conference. 2023.
- Abi Akl, Hanna. "A ML-LLM pairing for better code comment classification." Information Retrieval in Software

Engineering track at Forum for Information Retrieval Evaluation. 2023.

- Abi Akl, Hanna. "The Path to Autonomous Learners." Computing Conference. 2023.
- Khalil, R. B., Dagher, R., Zarzour, M., Sleilaty, G., Abi Akl, H., Kallab, M., & Richa, S. "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.
- Abi Akl, Hanna, Dominique Mariko, and 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.
- Gupta, Anubhav, Hanna Abi-Akl, and Hugues De Mazancourt. "Not All Titles are Created Equal: Financial Document Structure Extraction Shared Task." Proceedings of the 3rd Financial Narrative Processing Workshop. 2021.
- Mariko, Dominique, et al. "The Financial Document Causality Detection Shared Task (FinCausal 2021)." Proceedings of the 3rd Financial Narrative Processing Workshop. 2021.
- Mariko, Dominique, et al. "Data Processing and Annotation Schemes for FinCausal Shared Task." arXiv preprint arXiv:2012.02498 (2020).
- Abi Akl, Hanna, Dominique Mariko, and 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.
- Abi Akl, Hanna, Anubhav Gupta, and Dominique Mariko. "Fintoc-2019 shared task: Finding title in text blocks." Proceedings of the Second Financial Narrative Processing Workshop (FNP 2019). 2019.

Scientific Patents

- Abi Akl, Hanna, et al. "Systems and methods for measuring automatability of report generation using a natural language generation system." U.S. Patent No. 11,734,517. 22 Aug. 2023.
- Mariko, Dominique, Hanna Abi Akl, and Hugues Sézille De Mazancourt. "Techniques for generating natural language text customized to linguistic preferences of a user." U.S. Patent No. 11,501,088. 15 Nov. 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

Aug 2022	**IBM Neuro-Symbolic AI Essentials**
	Credential ID: 451ca011-fdc3-480d-8302-910653d3036b
Jul 2022	**Neo4j Certified Professional**
	Credential ID: 17485536
May 2022	**Udacity Machine Learning DevOps Engineer**
	Credential ID: AUDH2QDQ
Mar 2022	**Hasso Plattner Institute Knowledge Graphs**
	Credential: openHPI
Mar 2022	**Neo4j Graph Data Science Certified**
	Credential ID: 17390420
Feb 2021	**MIT Minds and Machines**
	Credential ID: a690a4dcb4464a58abc5d645e845c330
Jan 2021	**Udacity Deep Reinforcement Learning**
Nov 2020	**Leiden University Miracles of Human Language: An Introduction to Linguistics**
	Credential ID: JN2CTDZSAZDE
Oct 2020	**EPFL (École polytechnique fédérale de Lausanne) BIO465.2x: Computational Neuroscience: Neuronal Dynamics of Cognition**
	Credential ID: a1459af9cc2e40dea795e99c9dd5a230
Oct 2020	**Saint Petersburg State University Neurolinguistics**
	Credential ID: YXC5AS838CNR
Oct 2020	**The University of Edinburgh Philosophy and the Sciences: Introduction to the Philosophy of Cognitive Sciences**
	Credential ID: 2NYEPSBS6W97
Oct 2020	**National Research University — Higher School of Economics Towards language universals through lexical semantics: introduction to lexical and semantic typology**
	Credential ID: K844VGB5P75C
Aug 2019	**CentraleSupelec Analysez vos données textuelles**
	Credential ID: 4054888622
Jul 2019	**Université Grenoble Alpes Introduction à la linguistique de corpus**