



Dr.-Ing. Hiba Arnaout

Technical University of Darmstadt, Germany
hiba.arnaout@tu-darmstadt.de
hibaarnaout.com

Profile

Natural language processing, knowledge graphs, databases, digital mental health, scholarly AI, responsible AI

Languages

Arabic (Native), English (Fluent), German (Conversational), French (Conversational)

Employment

Postdoctoral Researcher Ubiquitous Knowledge Processing (UKP) lab, Technical University of Darmstadt, Germany	2023 – Present
Doctoral researcher Databases and Information Systems Group, Max Planck Institute for Informatics, Germany	2018 – 2023
Researcher Bosch Center for Artificial Intelligence, Germany	2021
Researcher School of Informatics, The University of Edinburgh, The United Kingdom	2020
Digital Transformation Coordinator Office of the Provost, The American University of Beirut, Lebanon	2016-2018
Research Assistant Department of Computer Science, The American University of Beirut, Lebanon	2014-2018

Education

PhD in Computer Science (Dr.-Ing.) Max Planck Institute for Informatics & Saarland University, Germany Dissertation: “Enriching Open-world Knowledge Graphs with Expressive Negative Statements” ★ SWSA Distinguished Dissertation Award, 2024 (1000 Euro prize; book publication, IOS Press)	2018 – 2023
M.Sc. in Computer Science The American University of Beirut, Lebanon ★ Fully funded scholarship	2014 – 2017
B.Sc. in Computer Science Haigazian University, Lebanon ★ With honors	2010 – 2013

Leadership

First author of the position paper “AI for Responsible Mental Health Evaluation” (ACL main) With 15 international NLP and mental health researchers Initiated from Dagstuhl seminar discussions and developed into a full conference paper Role: Leading author, coordination	2026
Co-Lead of the Clinical/Psychology Special Interest Group at the UKP Lab Up to 10 members Role: Closely co-advising students within the group and organizing and leading regular meetings	2024-now

Scholarships, Funding, and Awards

PCORI Grant (PI: Dr. Clarissa Ong), under review	2026
"Improving methods for conducting patient-centered comparative clinical effectiveness research"	
Role: Consultant	
Funding agency: Patient-Centered Outcomes Research Institute (PCORI)	
Distinguished Dissertation Award	2024
Dissertation: Enriching Open-world Knowledge Graphs with Expressive Negative Statements	
Awarding body: The Semantic Web Science Association (SWSA)	
Reward for invention	2022
Project: Knowledge Graph Repair using Ontologies and Large Language Models	
Awarding body: Bosch AI	
Best Poster Award	2020
Paper: "Enriching knowledge bases with interesting negative statements"	
Awarding body: The Conference on Automated Knowledge Base Construction	
Best Student Paper Award Nominee	2017
Paper: "Top-k keyword search over Wikipedia-based RDF knowledge graphs."	
Awarding body: International Joint Conference on Knowledge Discovery, Engineering and Management (IC3K).	
Full graduate scholarship	2014
Funding body: The American University of Beirut	
Dean's Scholarship, Bachelor of Science	2011-2013
Awarding body: Haigazian University	

Invited Talks

"Natural Language Processing for Mental Health"	2025
LOEWE-Zentrum DYNAMIC Retreat Philipps-Universität Marburg, Germany	
"AI for Citation Context Analysis"	2025
Workshop on Reference Extraction at the Intersection of AI and the Digital Humanities Max Planck Institute for Legal History and Legal Theory, Germany	
"Using Large Language Models to Create Personalized Networks From Therapy Sessions"	2025
Dagstuhl Seminar on Natural Language Processing for Mental Health Schloss Dagstuhl, Germany	
"Impact Summarization through Fine-Grained Temporal Citation Analysis"	2025
Department seminar series (theme "Cognitive AI"), TU Dresden, Germany & Workshop on Bibliometric measures of epistemic change, TU Berlin, Germany	
"Enriching Open-world Knowledge Graphs with Salient Negative Statements"	2023
L3S Research Center Leibniz University Hannover, Germany	
"Negative Statements Considered Useful"	2022
The Institute for Language, Cognition and Computation (ILCC) The University of Edinburgh, The United Kingdom	
"Enriching Knowledge Bases with Interesting Negative Statements"	2020
Forum for presentations of significant semantic web-related research The International Semantic Web Conference (ISWC), virtual	

International | Cross-disciplinary Collaborations

Responsible Evaluation of AI for Mental Health (position paper)	2026
With over 15 AI and mental health faculty from top international universities: University of Washington, Georgia Institute of Technology, Queen Mary University of London, Bar-Ilan University, Trinity College Dublin, Bocconi University, University of Trier, Philipps-Universität Marburg, and others, see ACL main paper	
Role: leading author, coordinator	
Synthetic Counseling Data Generation	2026
With Tanmoy Chakraborty (Indian Institute of Technology Delhi), Clarissa W. Ong (University of Louisville), and Kate Sheehan (University of Toledo)	
Role: co-supervisor, co-author, coordinator	

Multimodal Commonsense Knowledge for Contextual Reasoning	2023-2024
With Soyeon Caren Han (University of Melbourne) and Josiah Poon (University of Sydney)	
Role: co-author	
Mining Salient Negative Knowledge at Web Scale	2021-2023
With Jeff Z. Pan (University of Edinburgh) , five conference, journal, and demo publications (VLDB, CIKM, ICWSM, JWS, WWW)	
Role: leading author	
Biological Knowledge Graph Construction, Search, and Navigation (book chapter)	2018
With Nazar Zaki (UAE University), Leveraging Biomedical and Healthcare Data (Academic Press / Elsevier)	
Role: co-author	

Teaching

Large Language Models for Mental Health Seminar	2024
Co-lecturer, TU Darmstadt	
Automated Knowledge Base Construction Seminar	2022
Co-lecturer, Saarland University	
Information Retrieval and Data Mining Course	2019
Tutor, Saarland University	
Digital Literacy and Creative Tools Course	2017
Lecturer, World Food Programme (Livelihoods and Innovation), The United Nations	
Algorithms and Data Structures Course	2016
Tutor, The American University of Beirut	
Computers & Programming for the Arts and Sciences Courses	2015
Tutor, The American University of Beirut	
Introduction to Computing Systems Course	2014
Tutor, The American University of Beirut	

Service

Mini Grants Subreviewer	2025
LOEWE-Zentrum DYNAMIC	
Global Equity Chair	2024
ICWSM	
Conference Volunteer	2021
VLDB	
Reviewer at top journals	2018-now
JWS, PLOS One, Nature Communications Psychology	
Reviewer at top conferences	2016-now
NeurIPS, ACL, EMNLP, EACL, CIKM, IJCAI, CIKM, ISWC	

Students (Co-)Advised

Aishik Mandal <i>(Graph-based synthetic counseling data generation)</i>	PhD
Javier Rodríguez <i>(High fidelity synthetic counseling data generation)</i>	PhD
Mahmoud Abdelaziz <i>(Modeling social influence in therapy)</i>	Masters
Julian Bayer <i>(Computational control of human affect)</i>	Masters
Huy Minh Nguyen Le <i>(Personalized therapy intervention generation)</i>	Masters
Samuel Schmidt <i>(Web application for scientific impact analysis)</i>	Masters
Eugen Owtscharow <i>(Person-specific therapy network construction)</i>	Masters
Malihe Kaffash <i>(Construction of process-based therapy annotation guidelines)</i>	Masters

Jan Larionow (Tracking trends in mental health literature)	Bachelors
Nils Kovacic (Culturally sensitive emotional LLM supporter)	Bachelors
Serena Baylis (LLMs for process-based therapy annotation)	Bachelors
Sara Zahedi (Automated therapy session summarization)	Intern
Stefan Rogge (LLM-assisted human annotation)	Intern
Aditya Bikram Biswas (Guessing game with strong automated negative clues)	Intern
Mang Zhao (Knowledge graphs completion)	Intern
Mihai Ghețu (Empathic AI companion robot)	High school

Event Organization

Ubiquitous Knowledge Processing (UKP) Lab Day Co-organizer and panel facilitator Technische Universität Darmstadt, Germany	2025
Wikidata Workshop Co-organizer The 22nd International Semantic Web Conference (ISWC 2023), Greece	2024
Tutorial on “Completeness, Recall, and Negation in Open-World Knowledge Bases” Co-organizer and co-presenter International Conference on Knowledge Representation and Reasoning (KR, virtual); International Semantic Web Conference (ISWC, virtual); The Web Conference (WWW, virtual); International Conference on Very Large Data Bases (VLDB, Denmark)	2021-2022

Additional Training

Workshop “Leadership in Academia: Multiple Perspectives for Greater Effectiveness” INGENIUM Program, Technische Universität Darmstadt, Germany	2025
Workshop “Supervision and Leadership for Postdocs” INGENIUM Program, Technische Universität Darmstadt, Germany	2025
Reasoning Web Summer School Free University of Bozen-Bolzano, Bolzano, Italy	2019
The Lisbon Machine Learning School Instituto Superior Técnico (IST), Lisbon, Portugal	2018

Publications

See [publications list](#), or on [Google Scholar](#).

Personal Interests

Reading, TV, Coffee, Hiking, Basketball