



Youssef Al Hariri

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RESEARCH INTERESTS

Computational Social Science
Data Science, Data Analysis and Data Visualisations
Social Network Analysis

EDUCATION

- 09/2018 - 02/2023 **PhD in Informatics**, The University of Edinburgh, UK
Thesis title: Religious Polarisation over Social Networks
Advisors: Dr Walid Magdy and Dr Maria Wolters
- 09/2017 - 08/2018 **MSc (First Class) Artificial Intelligence (Distinction)**, The University of Edinburgh, UK
Thesis: Analysing Online Cultural Disengagement in the Arab Twittersphere
Advisor: Dr Walid Magdy
- 09/2012 - 07/2017 **BSc (Hons) Computer Engineering (Excellence)**, Qatar University, Qatar
Graduation Project: Signal Processing with Real-Time Response Application on FPGA SoC.
Advisor: Prof Abbes Amira

WORK EXPERIENCE

- 02/2024 - current **University Teacher**, School of Informatics, University of Edinburgh
Course: *Teaching the Text Technologies for Data Science (TTDS).*
Task: *Prepare and deliver the TTDS course material and assessment to MSc and UG4/5 students.*
- 08/2023 - 02/2024 **Postdoctoral Research Associate (PDRA)**, School of Informatics, University of Edinburgh
Project: *Modelling Audience Interactions. Funded by: UK government.*
PIs: Dr Walid Magdy and Dr Björn Ross
Aim: To develop a user-friendly tool that combines state-of-the-art AI techniques to model and analyse the narratives of user interactions.
Task: Develop an AI system that collects, stores, processes, and analyses social media content.
- 08/2022 - 08/2023 **Postdoctoral Research Associate (PDRA)**, School of Informatics, University of Edinburgh
Funded by: The Scottish government.
PIs: Dr Walid Magdy and Dr Laura Cram.
Aim: To compare human-generated data on Twitter from enormous online datasets to understand the societal and individual responses to sensitive topics. The project integrates AI techniques for efficient indexing, processing, visualization, and reporting within a user-friendly system.
Task: Develop an AI system that collects, stores, processes, and analyses social media contents. Also, to utilize the developed tool in computational social science studies.
- 01/2022 - 08/2022 **Research Fellow**, School of Social & Political Science, University of Edinburgh
Project: *Telling Good Stories.*
PI: Prof. Julie Brownlie
Aim: To compare human-generated data on Twitter to long-term historical data.
Task: Collect, store, process, and analyse tweets relevant to narratives of compassion and support during challenging times such as the Covid-19 pandemic. Compare this social media content with long-term historical published data.

01/2020 - 11/2021 **Research Assistant**, University of Edinburgh

Project: Digital Influence & Intelligence Lab

Aim: Build an online (live) social media analysis framework for monitoring public opinion over various topics of interest, e.g., Brexit, Scottish referendum, and Covid-19 pandemic.

Task: A member of a four-person team whose expertise covers both computer and political sciences. My responsibility was to build the backend of the platform, which includes tweets streamer, language identification, media detection, geo-location detection, and integration of multilingual sentiment analysis, and enabling fast scalable live search using Solr.

Project: Huawei Social Media Perception, Funded by: Huawei

Aim: Build an internal platform for Huawei to monitor public reviews on their products online.

Task: A member of a team of three, my role was to build an online scalable and modular-based system to collect, process, index, and report multilingual (European Languages) data from Twitter.

Project: Yemen Crisis, Funded by: United Nations (UN), New York, US

Aim: Analyse the crisis in Yemen from social media.

Task: Build a platform for collecting tweets about and from Yemen in Arabic to identify the locations and groups that are the most in-need so that the UN can provide immediate help.

08/2018 - 08/2022 **Teaching Assistant**, School of Informatics, University of Edinburgh, UK

- Main Duties:
- *Co-supervising postgraduate students (2018 to 2023):*
 - *M C Polo and M Desblancs, 2022/2023*
 - *G Zhou, 2021/2022*
 - *S Wang and L Gu, 2020/2021*
 - *A Althagafi and R Alhadhrami, 2018/2019*
 - *Tutoring, Lab demonstrating, and Marking (in person and online sessions) for the courses:*
 - *Text Technologies for Data Science,*
 - *Accelerated Natural Language Processing (ANLP),*
 - *The Human Factors,*
 - *Case Studies in Design Informatics,*
 - *Introduction to Java Programming.*

EXPERTISE

- Data Science
Statistical data analysis, sensitive data handling, and data indexing with Solr and MongoDB.
- Computational Social Science
Qualitative and quantitative analysis methods for answering social/political research questions.
- Social Network Analysis and Visualisations
Networks analysis, communities' detection, and visualization.

SKILLS

- Specialist in handling real-world big data and quantitative and qualitative analysis approaches.
- Teaching and assisting of teaching large classes (150+ students).
- ML and NLP techniques such as topic modelling, name entity recognition and sentiment analysis.
- End-to-end systems development including backend and frontend with Python, SQLAlchemy, React JS & Node JS.
- Skilled in Data Visualisation with Python libraries (Plotly, Matplotlib, Seaborn, Altair...etc.), and SNA.
- OOP using major languages and platforms mainly with Python and Java
- Cutting-edge technologies for large-scale data indexing systems and search engines including Apache Solr.
- Competent in communication skills, including oral presentation and documented reports.
- A project-oriented and teamwork-oriented hard worker.

TALKS/LECTURES

- Social network analysis workshop for students, Edinburgh Future Institute, Edinburgh, Mar 2024
- Twitter Data Collection Workshop for Engineering students, SUNY New Paltz, NY, USA, Mar 2022
- Atheists versus Theists: Religious Polarisation in Arab Online Communities.
24th ACM Conference on Computer-Supported Cooperative Work and Social Computing, Oct 2021
- Arabs and Atheism: Religious Discussions in the Arab Twittersphere. Social Informatics. SocInfo, Doha, Nov 2019

TEACHING INTERESTS

- Data Science
- Text Technologies
- Natural Language Processing

PUBLICATIONS

1. **Al Hariri, Y.**, Chausson S., Ross B., & Magdy W. (2024). TwiXplorer: An Interactive Tool for Narrative Detection and Analysis in Historic Twitter Data. CSCW 2024. (accepted July 2024).
2. **Al Hariri Y.** & Abu Farha I. (2024). SMASH at AraFinNLP2024: Benchmarking Arabic BERT Models on the Intent Detection, In: *Proceedings of the 2nd Arabic Natural Language Processing Conference (Arabic-NLP)*, ACL 2024.
3. **Al Hariri Y.** & Abu Farha I. (2024). SMASH at StanceEval 2024: Prompt Engineering LLMs for Arabic Stance Detection, In: *Proceedings of the 2nd Arabic Natural Language Processing Conference (Arabic-NLP)*, ACL 2024.
4. El Alfy, A., Quigley, J., Tang, L., **Al Hariri, Y.**, & Weber, O. (2024). Sustainability tweeting triumphs during the COP events: analyzing environmental, social, and governance (ESG) communication on Twitter. *Journal of Asia Business Studies*.
5. Chausson S., **Al Hariri Y.**, Ross B., & Magdy W. (2024). The Social Media Undercurrent: Comparing News Coverage and Tweets During the 2022 FIFA World Cup. ICWSM (submitted, appending review).
6. **Al Hariri Y.**, Magdy W., Wolters, M. K. (2021), 'Atheists versus Theists: Religious Polarisation in Arab Online Communities'. *Proceedings of the ACM on Human-Computer Interaction*, vol 5, CSCW2, Article 361 (October 2021), 28 pages. <https://doi.org/10.1145/3479505>
7. **Al Hariri, Y.**, Magdy, W., Wolters, M. (2019). Arabs and Atheism: Religious Discussions in the Arab Twittersphere. In: *Social Informatics. SocInfo 2019. Lecture Notes in Computer Science*, vol 11864. Springer, Cham. https://doi.org/10.1007/978-3-030-34971-4_2
8. Mhaisen, N., Abazeed, O., **Al Hariri, Y. A.**, Alsalemi, A., & Halabi, O. (2018). Self-Powered IoT-Enabled Water Monitoring System. In *Proceedings of the 2018 International Conference on Computer and Applications (ICCA)* (pp. 41-45). (IEEE). <https://doi.org/10.1109/COMAPP.2018.8460401>
9. Shata, O., Mhaisen, N., Abazeed, O. & **Al Hariri, Y.** (2015). Teaching Database Management Systems in Higher Education: An Efficient Approach for Introductory Courses. *Sylwan journal*. (11). <http://www.sylwan.ibles.org/syl/index.php/archive/part/159/11/1/>

RESEARCH SERVICES

- Program Committee: ACL-SRW 2023, ICWSM 2024, ICWSM 2023
- Conferences reviewer at: ICWSM 2023-2024, CSCW 2022~2024, CHI 2022~2024, ASONAM & MuC 2024.
- Journal reviewer at: OSNEM and SNAM

AWARDS & ACHIEVEMENTS

- A PDRA extended grant awarded by the Alan Turing Institute's Defence and Security Programme: "Finding Adversary Narratives: Topic and Momentum (FANToM)." PIs: Dr Björn Ross and Dr Walid Magdy (2024).
- PDRA grant awarded by the Alan Turing Institute's Defence and Security Programme: "Modelling Audience Interactions." PIs: Dr Walid Magdy and Dr Björn Ross (2023).
- PhD scholarship at the ILCC, University of Edinburgh (2018).

LANGUAGES

- English
- Arabic

REFERENCES

Dr Walid Magdy,

Reader at the School of Informatics, the University of Edinburgh, UK
wmagdy@inf.ed.ac.uk

Dr Bjorn Ross,

Lecturer in Computational Social Science, the University of Edinburgh, UK
b.ross@ed.ac.uk

Dr Maria Wolters,

Research Group Lead, Social Computing, OFFIS Institute for Informatics, Germany.
maria.wolters@offis.de