
Youssef Al Hariri

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EDUCATION

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

RESEARCH INTERESTS

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

WORK EXPERIENCE

- University Teacher**, School of Informatics, The University of Edinburgh. Feb 2024 – present
Aim: Teaching the Text Technologies for Data Science (TTDS).
Task: responsible for preparing and teaching the TTDS course in the academic year 23/24.
Students feedback: very good.
- Postdoctoral Research Associate (PDRA)**, School of Informatics, UoE. Aug 2023 – Feb 2024
Funded grant by Alan Turing Institute's Defence and Security Programme.
Project: Modelling Audience Interactions.
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: Developed an end-to-end AI system that integrates advanced NLP and network analysis techniques for collecting, storing, processing, and analysing social media content.
- Postdoctoral Research Associate (PDRA)**, School of Informatics, UoE Aug 2022 – Aug 2023
Project: Digital Influence and Intelligence Lab (DIIL)'s Dashboard
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: Developed an AI system that collects, stores, processes, and analyses social media contents. Also, we utilized the developed tool in computational social science studies.
- Research Fellow**, School of Social & Political Science, UoE Jan 2022 – Aug 2022
Project: Telling Good Stories
PI: Dr Julie Brownlie (School of Social & Political Science)
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.
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Research Assistant, School of Informatics & School of Social & Political Science, UoE Mar 2021 – Nov 2021

Project: Digital Influence and Intelligence Lab (DIIL)

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.

Research Assistant, (Project: Huawei), ILCC, University of Edinburgh, UK Aug 2020 – Mar 2021

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.

Remote research Assistant, (Project: Yemen Crisis), University of Edinburgh Jan 2020 – Aug 2020

Funded by *the* United Nations (UN), New York.

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.

Teaching Assistant, School of Informatics, University of Edinburgh, UK Aug 2018 – Aug 2022

Main Duties:

- *Co-supervising master's degree students (2018 to 2023).*
- *Tutoring, Laboratory Demonstrating, and Course Marking for the following 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 in teaching large classes (250+).
- ML and NLP techniques such as PyTorch library, topic modelling, name entity detection and sentiment analysis.
- Backend and frontend development with Python, SQLAlchemy, React JS and 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
- Building and managing 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.

TEACHING INTERESTS

- Data Science
 - Text Technologies
 - Natural Language Processing
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TALKS/LECTURES

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

PUBLICATIONS

1. **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.
2. **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.
3. 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*.
4. **Al Hariri, Y.**, Chausson S., Ross B., & Magdy W. (2024). TwiXplorer: An Interactive Tool for Narrative Detection and Analysis in Historic Twitter Data, (*submitted, appending review*).
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, (*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 2023-2024, ICWSM 2023, ICWSM 2024
- Conferences reviewer at: ICWSM 2023-2024, CSCW 2022~2024, CHI 2022~2024, ASONAM & MuC 2024.
- Journal reviewer at: OSNEM and SNAM

AWARDS & ACHIEVEMENTS

- PDRA Awarded the Alan Turing Institute's Defence and Security Programme grant: "Modelling Audience Interactions". PIs: Dr Walid Magdy and Dr Björn Ross (2023).
- PhD scholarship at the ILCC, University of Edinburgh (2018).

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