

Sabrina Amri

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Profile

PhD in Computer Science specializing in artificial intelligence, data analyses techniques and cybersecurity, with experience in natural language processing, machine learning, explainable AI and multimodal data analysis.

Education

Ph.D. in Computer Science

University of Montreal, Montreal, Canada

2019-2024

- Thesis: "FACTS-ON: Fighting Against Counterfeit Truths in Online Social Networks: Fake News, Disinformation, and Misinformation"

Master's in Computer Science: Intelligent and Pervasive Systems

Higher Institute of Applied Sciences and Technology, Sousse, Tunisia

2015-2018

National Engineering Diploma in Computer Science

Polytechnic School of Sousse, Tunisia

2012-2015

Bachelor's in Administration of Networks and Services

Higher Institute of Applied Sciences and Technology, Sousse, Tunisia

2007-2010

Professional Experience

Researcher

University of Montreal, Montreal, Canada

Mai 2020 - February 2024

- **EXMULF System:** Designed and led the development of a multimodal fake news detection system integrating explainability, using ViBERT, LIME and LDA models.
- **ExFake System:** Architected a solution for fake news detection combining content, social context, and external evidence, using Web Scraping and NLP tasks including Named Entity Recognition (NER) and Natural Language Inference (NLI).
- **AFCC System:** Developed an automatic fact-checkers' consensus system, utilizing K-means clustering, word2vec and Bayesian techniques to enhance credibility assessment.

Teaching Assistant

University of Montreal, Montreal, Canada
September 2023 - December 2023

- IFT1135: Introduction to Mobile Applications.

Teaching Assistant

University of Montreal, Montreal, Canada
September 2019 - April 2020

- IFT1810: Introduction to Programming (C and Java).

Software developer

Department of Telecommunications Engineering, School of Engineering, Linares, Jaén, Spain
June 2017 - July 2017

- Designed an algorithm for virtual machine placement in cloud computing environment.
- Collaborate with a team of developers to implement, test and deploy the designed algorithm using Java language.

Software developer

Laboratory of Electronics and Microelectronics, Faculty of Sciences, Monastir, Tunisia
February 2015 - June 2015

- Conducted the requirement specification and design of a web and mobile applications for Medical Assistance.
- Developed and deployed the web and mobile applications using PHP language for the backend, while the frontend was developed using Android, JavaScript, CSS and HTML5.
- Collaborated with a team of 2 persons to realize 200+ weekly code reviews to ensure its quality and the system efficiency.

Coordinator

Center for Strategic Studies and Development, Sidi Bouzid, Tunisia
April 2011 - March 2012

- Voluntary association, community non-profit work in coordination and information systems.
- Organized appointments and coordinated events.
- Managed teams and association projects in collaboration with multiple organizations.

Intern

Coordination Department, Saône-et-Loire Department, France
November 2011 - December 2011

- Internship in coordination and information systems.

Intern

Tunisie Telecom, Sousse, Tunisia
February 2010 - April 2010

- Design and implementation of an FTP application for a Telecommunication Center.

Intern

Tunisie Telecom, Sidi Bouzid, Tunisia
September 2009 – October 2009

- Discovery and maintenance of telecommunications network infrastructures.

Publications

1. **Sabrina Amri**, Esma Aimeur. "AFCC: Towards an Automatic Fact-Checkers' Consensus Inference and Credibility Assessment for Trust-based Fake News Detection." *International Journal of Information Technology* (2024): 1-16.
 2. **Sabrina Amri**, Henri-Cedric Mputu Boleilanga, Esma Aimeur. "ExFake: Towards an Explainable Fake News Detection Based on Content and Social Context Information." *2023 Congress in Computer Science, Computer Engineering & Applied Computing (CSCE)* (pp. 01-08). IEEE.
 3. Esma Aïmeur, **Sabrina Amri**, and Gilles Brassard. "Fake news disinformation and misinformation in social media: a review." *Social Network Analysis and Mining* 13.1 (2023): 30.
 4. **Sabrina Amri**, Dorsaf Sallami, and Esma Aimeur. "EXMULF: An Explainable Multimodal Content-Based Fake News Detection System." *International Symposium on Foundations and Practice of Security*. Springer, Cham, 2022.
 5. Hedi Hamdi, **Sabrina Amri**, and Zaki Brahmi. "Managing performance interference effects for Intelligent and efficient Virtual Machines Placement based on GWO Approach in Cloud." *International Journal of Computing and Digital Systems* 8.04 (2019): 317-332.
 6. Esma Aimeur, Hicham Hage, and **Sabrina Amri**. "The Scourge of Online Deception in Social Networks." *2018 International Conference on Computational Science and Computational Intelligence (CSCI)*. IEEE, 2018.
 7. **Sabrina Amri**, Zaki Brahmi, Rocío P. Prado, S. García-Galán, and J.E. Muñoz-Expósito. "Interference-Aware Virtual Machine Placement: A Survey." *International Conference on Image Processing and Communications*. Springer, Cham, 2018.
 8. **Sabrina Amri**, Hedi Hamdi, and Zaki Brahmi. "Inter-VM Interference in Cloud Environments: A survey." *2017 IEEE/ACS 14th International Conference on Computer Systems and Applications (AICCSA)*. IEEE, 2017.
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Technical Skills

- **Natural Language Processing (NLP)**: BERT, Word2Vec, spaCy, LDA
 - **Machine Learning**: Scikit-Learn, Deep Learning (including PyTorch, vilBERT), Lime (Model Interpretability), K-means clustering
 - **Software Development and Programming**: Pascal, C/C++, Java, Python, PHP5, HTML5, CSS3, JavaScript, Prolog, Lisp, MySQL, SQL, Mobile Development (Android), Embedded Development (Arduino, VHDL), MongoDB, JSON, Scrapy
 - **Cisco Certifications**: Cisco CCNA1, 2, 3
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Language Skills

- **Native Language**: Arabic
- **Other Languages**: French, English