Dr. Riad Sonbol

CONTACT INFORMATION

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Profile:

AI researcher holding a PhD in **Artificial Intelligence**, specializing in intelligent systems and deep learning. Academic lecturer at **HIAST**, **SPU**, and **Damascus University**, with extensive **supervision of doctoral and master's research**. Led multiple industry-based projects and authored numerous **peer-reviewed publications** in high-impact, Scopus-indexed international journals and conferences. Regularly serves as a **reviewer for leading journals** and international AI conferences.

RESEARCH INTERESTS

My research focuses on:

- Deep Learning Architectures,
- Large Language Models,
- Natural Language Processing,
- Computer Vision,
- Multimodal learning,
- Ethical AI,
- Applied AI solutions across healthcare, cybersecurity, telecommunications, software engineering, and robotics.

EDUCATION

- **PhD in Informatics, Artificial Intelligence.**
  - Dec 2018 - Sep 2022.
  - Higher Institute of Applied Sciences and Technology
  - Focus Areas: NLP, Semantic Representation, ML, DL, AI4RE.
  - Thesis: A Syntactic-Semantic Approach to Represent Textual Requirements to Support Requirements Engineering (RE) Automation Tasks.
- **MSc in Informatics, Information and Decision Support Systems**
  - Dec 2014- Dec 2017
  - Higher Institute of Applied Sciences and Technology
  - Areas of Study: NLP, ML, Business Process Modelling.
  - Thesis: Extracting Business Process Models from Natural Language
- **B.S. Degree in Information Systems Engineering.**
  - Sep 2003- Aug 2008
  - Higher Institute of Applied Sciences and Technology

PROFESSIONAL EXPERIENCE

- **Deputy Director of HIAST for Scientific Affairs and Research** Higher Institute of Applied Sciences and Technology (HIAST) (2026–Present)
- **Assistant Professor (Lecturer and Researcher) -** *Higher Institute of Applied Sciences and Technology HIAST* (2022- Present)
- **Lecturer (Part-Time) -** *Damascus University* - Faculty of Information Technology Engineering *(March* 2025- Present)
- **Assistant Professor (Part-Time) -** *Syrian Private University SPU (*Aug 2023- Present)
- **Director of Scientific Cooperation –** Higher Institute of Applied Sciences and Technology (HIAST) (2025–2026)
- **Assistant for Educational Affairs in the Department of Informatics -** *Higher Institute of Applied Sciences and Technology HIAST* (2026- Present)
- **Academic Reviewer** - *Several Scopus-Indexed Scientific Journals* (2018 – Present)
- **AI Consultant -** *Various Companies* (2021-present)
- **Head of AI department** – *HCI company* (2018-2021).
- **Head of Software Development Department** - *Magna Group (2014-2018)*
- **Senior Machine Learning & NLP Engineer –** *Self-Employed* (2012-2014).
- **Technical Manager-***Voila Company for web solutions – Syria Branch* (2010-2012).
- **Assistant Teacher** - *Higher Institute of Applied Sciences and Technology (HIAST)* (Nov 2008 – Sep 2022)

SELECTED PUBLICATIONS

- Albani, M.A. and **Sonbol, R.,** 2026. Towards More Robust Representations for Low-Resource Clinical Diagnosis. **(under review)**
- Abdulaziz, A., **Sonbol, R.,** and Alnoukari, M. 2026, Jan. Automated Detection of Self-Admitted Technical Debt: A Systematic Literature Review. *IEEE Access*.
- Albani, M.A. and **Sonbol, R.,** 2025. Enhancing Cross-Patient Generalization in AI-Based Parkinson's Disease Detection. **(under review)**
- Hamed, M.M., **Sonbol, R.,** and Ghneim, N. 2025, November. HIAST at QIAS 2025: Retrieval-Augmented LLMs with Top-Hit Web Evidence for Arabic Islamic Reasoning QA. In *Proceedings of The Third Arabic Natural Language Processing Conference: Shared Tasks* (pp. 883-891).
- **Sonbol, R.**, Rebdawi, G. and Ghneim, N., 2024. A Machine Translation Like Approach to Generate Business Process Model from Textual Description. *SN Computer Science (Springer)*, 4(3), p.291.
- **Sonbol, R.**, Rebdawi, G. and Ghneim, N., 2022. Learning software requirements syntax: An unsupervised approach to recognize templates. *Knowledge-Based Systems (Elsevier)*, 248, p.108933.
- **Sonbol, R..**, Rebdawi, G. and Ghneim, N., 2022. The use of nlp-based text representation techniques to support requirement engineering tasks: A systematic mapping review. *IEEE Access*.
- **Sonbol, R.**, Rebdawi, G. and Ghneim, N., 2020, September. Towards a semantic representation for functional software requirements. In 2020 *IEEE Seventh International Workshop on Artificial Intelligence for Requirements Engineering (AIRE)* (pp. 1-8). IEEE.
- **Sonbol, R.**, Rebdawi, G. and Ghneim, N., 2018. Anaphora Resolution in Business Process Requirement Engineering. *International Journal of Electrical & Computer Engineering* (2088-8708), 8(3).
- Rebdawi, G., Ghneim, N., Desouki, M.S. and **Sonbol, R.**, 2011, April. An interactive Arabic dictionary. In 2011 *International Conference on Innovations in Information Technology* (pp. 83-86). IEEE.
- **Sonbol, R.,** and Desouki, M.S., 2011. Arabic Spell-Checking Component in the Arabic Interactive dictionary. *Arabic Spell-checking systems workshop*.
- **Sonbol, R.,** Ghneim, N. and Desouki, M.S., 2010. POS-Tagger and a shallow syntactical analyzer using machine learning techniques. *Enriching Arabic Digital Content workshop*.
- **Sonbol, R.,** Ghneim, N. and Desouki, M.S., 2009. An Application Oriented Arabic Morphological Analyzer. In Proceedings of *the workshop of morphological analyzer experts for Arabic language*, organized

by Arab League Educational, Cultural and Scientific Organization (ALECSO), King Abdul-Aziz City of Science and Technology (KACST) and Arabic Language Academy.

- Al-Dakkak, O., Ghneim, N., Alshalaby, A., **Sonbol, R.** and Desouki, M.S., 2009, April. Arabic Language resources in HIAST. In Proceedings of *the Second International Conference on Arabic Language Resources and Tools* (pp. 22-23).
- **Sonbol, R.,** Ghneim, N. and Desouki, M.S., 2008, April. Arabic morphological analysis: A new approach. In 2008 3rd *International Conference on Information and Communication Technologies: From Theory to Applications* (pp. 1-6). IEEE.

LANGUAGES

- Arabic (Mother language).
- English (Good command).
- French (Basics).