






# Hossein Yarahmadi

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## Education




- 2023 – 2024     **Postdoc researcher fellow, University of Antwerp (Universiteit Antwerpen), Belgium**  
Project Title: *Integration of Learning and Reasoning in Multi-agent Systems and its Applications in Cyber-Physical Systems and IoT under the supervision of Prof.Dr. Moharram Challenger.*
- 2023     **Ph.D. Computer Science, University of Antwerp (Universiteit Antwerpen), Belgium.**  
Thesis title: *Improving the Credit Assignment Problem in Multi-agent Systems under the supervision of Prof.Dr. Moharram Challenger.*
-  **Ph.D. Computer Engineering (Software systems), Science and Research Branch of IAU, Iran**  
Thesis title: *Improving the Credit Assignment Problem in Multi-agent Systems under the supervision of Prof.Dr. Mohammad.Ebrahim Shiri.*
- 2003     **M.Sc. Computer Engineering-Software, IAU of Arak.**  
Thesis title: *Reviewing, Comparing, and Optimizing the Methods to Protect the Integrity of Mobile Agents under the supervision of Prof. Mohammad Reza Meybodi (Grade: 19.0/20.0).*
- 2001     **B.Sc. Computer Engineering-Software, Isfahan University.**  
Thesis title: *a Survey on the Security of LAN Networks in NT-Technology Windows Operating Systems under the supervision of Dr. Mohammad Hossein Ghavamnia (Grade: 19.0/20.0).*

## Employment History

- 2022 – 2024     **Researcher**, University of Antwerp, Antwerp, Belgium.
- 2022 – 2023     **Researcher**, Flanders Make Strategic Research Center, Flanders, Belgium.
- 2001 – 2022     **Lecturer**, Computer and Information Technology Department, IAU, Borujerd, Iran.
- 2012 – 2022     **Visiting Lecturer**, Computer Department, Ayatollah Borujerdi University, Borujerd, Iran.


## Research Publications

### Journal Articles

- 1 H. Yarahmadi, M. E. Shiri, H. Navidi, A. Sharifi, and M. Challenger, "Revap: A bankruptcy-based algorithm to solve the multi-agent credit assignment problem in task start threshold-based multi-agent systems," *Robotics and Autonomous Systems*, vol. 174, p. 104 631, 2024, ISSN: 0921-8890.  DOI: <https://doi.org/10.1016/j.robot.2024.104631>.
- 2 H. Yarahmadi, M. E. Shiri, M. Challenger, H. Navidi, and A. Sharifi, "Multi-agent credit assignment and bankruptcy game for improving resource allocation in smart cities," *Sensors*, vol. 23, no. 4, 2023, ISSN: 1424-8220.  DOI: [10.3390/s23041804](https://doi.org/10.3390/s23041804).
- 3 H. Yarahmadi, M. E. Shiri, H. Navidi, A. Sharifi, and M. Challenger, "Bankruptcy-evolutionary games based solution for the multi-agent credit assignment problem," *Swarm and Evolutionary Computation*, vol. 77, p. 101 229, 2023, ISSN: 2210-6502.  DOI: <https://doi.org/10.1016/j.swevo.2023.101229>.

- 4 H. Yarahmadi, M. E. Shiri, H. Navidi, and A. Sharifi, "A bankruptcy based approach to solving multi-agent credit assignment problem," *International Journal of Nonlinear Analysis and Applications*, vol. 12, pp. 1987–2018, 2021.
- 5 H. YARAHMADI and M. KAMANKESH, "An effective method for protecting the integrity of mobile agent," *Fen Bilimleri Dergisi (CFD)*, vol. 36, no. 6, 2015.
- 6 H. Yarahmadi *et al.*, "A new approach for mobile agent security," *International Journal of Electronics and Communication Engineering*, vol. 2, no. 6, pp. 1210–1213, 2008.






## Conference Proceedings

- 1 H. Yarahmadi, H. Navidi, and M. Challenger, "Improving the resource allocation in iot systems based on the integration of reinforcement learning and rule-based approaches in multi-agent systems," in *2024 8th International Conference on Smart Cities, Internet of Things and Applications (SCIoT)*, 2024, pp. 135–141.  DOI: 10.1109/SCIoT62588.2024.10570102.
- 2 H. Yarahmadi, M. E. Shiri, M. Challenger, H. Navidi, and A. Sharifi, "On the use of multi-agent reinforcement learning in cyber-physical and internet of thing systems," in *2023 12th Mediterranean Conference on Embedded Computing (MECO)*, IEEE, 2023, pp. 1–8.
- 3 H. Yarahmadi, M. E. Shiri, H. Navidi, A. Sharifi, H. Piriaei, and M. Challenger, "Vaccine distribution modelling in pandemics through multi-agent systems: Covid-19 case," in *2023 13th International Conference on Computer and Knowledge Engineering (ICCKE)*, IEEE, 2023, pp. 277–285.
- 4 H. Yarahmadi and M. Dehghan, "A hybrid method for protecting the integrity of mobile agents," in *WSEAS International Conference. Proceedings. Mathematics and Computers in Science and Engineering*, World Scientific, Engineering Academy, and Society, 2008.





## Books and Chapters

- 1 Y. Hossein and M. Nasser, Eds., *Transfer Protocols of Wide Area Network*. Borujerd, Iran: Islamic Azad University of Borojerd Publisher, 2014.
- 2 Y. Hossein and M. Nasser, Eds., *Addressing in Distributed Networks*. Borujerd, Iran: Islamic Azad University of Borojerd Publisher, 2012.

## Skills

Languages	 Native in Persian (Mother tongue).
	 Strong reading, writing and speaking in English.
Coding	 C/C++, C#, Java, JavaScript, Delphi, Python, SQL, NetLogo, Brahms, UML, LaTeX.
Databases	 MS-SQLServer, MySQL, PostgreSQL.
Misc.	 Academic research, teaching, training, consultation, $\LaTeX$ typesetting and publishing.

## Research Interests

Multi-Agent Systems	 Multi-Agent Reinforcement Learning, Multi-Agent Credit Assignment Problem, Mobile Agents, Intelligent Agents, Mobile Agent Security
Machine Learning	 Reinforcement Learning
Modeling and Simulation	 Agent-Based Modeling, Multi-Agent Modeling
Game Thoery	 Bankruptcy Game, Cooperative Games

## References

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