

Adham Salih, Ph.D.

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ACADEMIC DEGREES

- 2023 Ph.D., School of Mechanical Eng., Tel-Aviv University, Israel
Thesis Title: “Many-objective Topology and Weight Evolution of Artificial Neural Networks”
- 2018 M.Sc., *Summa Cum Laude*, School of Mechanical Eng., Tel-Aviv University, Israel
Thesis Title: “Comparing algorithms for multi-objective evolution of neuro-controllers”
- 2013 B.Sc., *Summa Cum Laude*, Department of Mechanical Eng., Braude College, Israel
Final Project Title: “Mechanical Cognition – Proof of Concept”
- 2006 Practical Engineer in Mechanical Engineering, Ort Braude College, Israel

PROFESSIONAL EXPERIENCE:

- 2018- Present Faculty Member, Department of Mechanical Eng., Braude College, Israel
- 2020-2022 Adjunct Lecturer, School of Mechanical Eng., Tel Aviv University, Israel.
- 2017- 2018 Flagship Project Supervisor and Technical Consultant for Rehabilitation Biomechanics Projects, Braude College, Israel
- 2014-2018 Final Project Supervisor, Braude College
- 2013 Research Assistant, Field of Robotic Cognition, the Department of Mechanical Eng, Ort Braude College.
- 2007 – 2011 Practical Engineer, the Mechanical Properties Laboratory, IAF, Israel.

FELLOWSHIPS, AWARDS, and HONORS

- 2022-2025 Outstanding Faculty Member, Braude College.
- 2019-2021 Zvi Ynai PhD Scholarship, awarded by the Israeli Ministry of Science & Technology.
- 2016 IEEE SMC Student Travel Grant – 2016 IEEE International Conference on Systems, Man, and Cybernetics
- 2016 Scholarship for Excellence, awarded by the Iby and Aladar Fleischman Faculty of Eng., Tel-Aviv Univ.
- 2014,2015 Team Supervisor of Students who won 2nd Place in a National Aerial Robotics Competition.
- 2014,2015 Outstanding Teaching Member, Braude College.
- 2013 Research Assistant Prize, awarded by Braude College.

LIST OF PUBLICATIONS

Journal Papers

1. Denenberg, E. and **Salih, A.** (2026), Bi-level Evolutionary Framework for Designing Multi-Debris Active Removal Missions. *Acta Astronautica*. DOI: <https://doi.org/10.1016/j.actaastro.2026.04.002>
2. **Salih, A.**, and Eisenstadt Matalon, E. (2025), Game-based Multi-objective Evolution of Robust Controllers. *ISA Transactions*. DOI: [10.1016/j.isatra.2025.09.006](https://doi.org/10.1016/j.isatra.2025.09.006)
3. Weiss, A., Ben-Hanan, U. & **Salih, A.** (2025), Dynamics Mimicking - Enabling Robot Operation for Wheelchair Users. *IEEE Sensors Journal*, 25(11), 18901-18908. DOI: [10.1109/JSEN.2025.3559666](https://doi.org/10.1109/JSEN.2025.3559666)
4. **Salih, A.**, Roth, N., Buganim, O., Pelosi, A.D. (2024), A Low-Cost Open-Source Uniaxial Tensile System for Soft Tissue Testing. *Hardware* 2024, 2, 292-305. DOI: [10.3390/hardware2040015](https://doi.org/10.3390/hardware2040015)
5. **Salih, A.**, and Eisenstadt Matalon, E. (2024), Solving Multi-objective Robust Optimization Problems via Stackelberg-based Game Model. *Swarm and Evolutionary Computation* 91, 101734. DOI: [10.1016/j.swevo.2024.101734](https://doi.org/10.1016/j.swevo.2024.101734)
6. Roth, N., **Salih, A.**, & Rosenblum, S. (2024). Subjective and objective day-to-day performance measures of people with essential tremor. *Sensors*, 24(15), 4854. DOI: [10.3390/s24154854](https://doi.org/10.3390/s24154854)
7. **Salih, A.**, Gabbay, J., & Moshaiov, A. (2024). Transferability of Multi-Objective Neuro-Fuzzy Motion Controllers: Towards Cautious and Courageous Motion Behaviors in Rugged Terrains. *Mathematics*, 12(7), 992. DOI: [10.3390/math12070992](https://doi.org/10.3390/math12070992)
8. **Salih, A.**, & Moshaiov, A. (2024). Neuro-evolution-based generic missile guidance law for many-scenarios. *Applied Soft Computing*, 152, 111210. DOI: [10.1016/j.asoc.2023.111210](https://doi.org/10.1016/j.asoc.2023.111210)
9. **Salih, A.**, & Moshaiov, A. (2022). Evolving Topology and Weights of Specialized and Non-Specialized Neuro-controllers for Robot Motion in Various Environments. *Neural Computing and Applications*, 34, 17071-17086. DOI: [10.1007/s00521-022-07357-4](https://doi.org/10.1007/s00521-022-07357-4)
10. **Salih, A.**, & Moshaiov, A. (2022). Promoting transfer of robot neuro-motion-controllers by many-objective topology and weight evolution. *IEEE Transactions on Evolutionary Computation*, 27(2), 385-395. DOI: [10.1109/TEVC.2022.3172294](https://doi.org/10.1109/TEVC.2022.3172294)
11. Benyamin, O. B., Juvinao, D., Berlinsky, T., **Salih, A.**, Solomonov, E., Waksman, I., & Biswas, S. (2022). Designing Engineering Solutions to Surgical Problems: How to Translate Physiology to Biomechanics. *Journal of The Institution of Engineers (India): Series C*, 103(5), 1095–1102. DOI: [10.1007/s40032-022-00865-1](https://doi.org/10.1007/s40032-022-00865-1)

Conference Papers

12. **Salih, A.**, & Moshaiov, A. (2022). Benchmarking many-objective topology and weight evolution of neural networks: A study with NEWS/D. In the proceedings of the 2021 IEEE Symposium Series on Computational Intelligence, SSCI 2021, 1–6. DOI: <https://doi.org/10.1109/ssci50451.2021.9659924>
13. Moshaiov, A., & **Salih, A.** (2022). Multi-Objective Structure and Parameter Evolution of Neuro-Fuzzy Systems. In the proceedings of the 2021 IEEE Symposium Series on Computational Intelligence, SSCI 2021, 1–6. DOI: <http://dx.doi.org/10.1109/ssci50451.2021.9659854>

14. **Salih, A.,** & Moshaiov, A. (2021). Modified decomposition framework and algorithm for many-objective topology and weight evolution of neural networks. In the proceedings of the 2021 IEEE Congress on Evolutionary Computation (CEC), 1478–1485. DOI: <https://doi.org/10.1109/cec45853.2021.9504953>
15. **Salih, A.,** & Moshaiov, A. (2017). Multi-objective neuro-evolution: Should the main reproduction mechanism be crossover or mutation? In the proceedings of the 2016 IEEE International Conference on Systems, Man, and Cybernetics (SMC) 2017, pp. 4585–4590. DOI: <http://dx.doi.org/10.1109/smc.2016.7844954>

Submitted Publications

16. **Salih, A.** and Denenberg, E., Multi-objective Bi-level Optimization Framework for Designing Multi-Debris Active Removal Missions. submitted to *Acta Astronautica*
17. Pelosi, A.D. & **Salih, A.,** When Cues Speak Louder Than Thoughts: What Neural Networks Really Learn in MI Classification, submitted to the *IEEE ACCESS*.
18. Bar-Sheshet S., **Salih, A.,** & Moshaiov A., Bi-criteria Restart Approach for Gradient-based Global Optimization, submitted to the *Optimization Methods and Software Journal*.
19. Mardiks, G., **Salih, A.** & Moshaiov, A. Class-based Many-objective Neural Architecture Search for Deep Classifiers, submitted to the *Neural Computing and Applications Journal*.
20. Denenberg, E. and **Salih, A. ,** Improved Convergence and Efficiency in Perturbed Lambert Solvers via Backward Picard-Chebyshev Integration. submitted to the *Advances in Space Research*.