Francesco Stranieri

PhD Student · Italian National PhD Program in Artificial Intelligence

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"An expert is a person who has made all the mistakes that can be made in a very narrow field." – Niels Bohr

Experience

Bristol Myers Squibb, *External Researcher* | Zurich, Switzerland   *April 2023 - Present*
- Developed and implemented a digital twin for supply chain risk evaluation using deep reinforcement learning.
- Demonstrated an improvement in inventory management for perishable pharmaceuticals over human-managed policies.

IEEE-HKN, *AI Team Member* | Turin, Italy   *March 2022 - Present*
- Collaborated with a four-person team to build a dataset and develop a CNN-based image classification model.
- This model aims to categorize different types of waste, enhancing automation in waste collection at the Polytechnic of Turin.

University of Milano-Bicocca, *Tutor* | Milan, Italy   *September 2019 - September 2023*
- Worked as a Tutor for the course 'Operations Research and Resource Planning' (MAT/09 – 40 hours) in the a.y. 2021/22 and 2022/23.
- Worked as a Tutor for the courses 'Design and Analysis of Algorithms' (INF/01 – 60 hours), 'Probability and Statistics for Computer Science' (MAT/06 – 30 hours), 'Operating Systems and Networks' (INF/01 – 60 hours) in the a.y. 2019/20.

ITS Angelo Rizzoli, *Professor* | Milan, Italy   *September 2020 - July 2022*
- Led and taught the 'Programming Language for Machine Learning' module, focusing on the R programming language, for the 'ITS Machine Learning Specialist' course during the a.y. 2020/21 (24 hours) and 2022/23 (32 hours).

AnciLab, *Extracurricular Internship* | Milan, Italy   *January 2021 - May 2021*
- Selected for an intensive 258-hour program for young entrepreneurs designed to provide participants with essential skills for developing business ideas through training sessions, local business interactions, and a focus on teamwork and communication tools.

Invited Speaker: "ReGAInS: Ridurre il Divario tra AI e Società" (Milano Digital Week 2023) | "The Rights from Future Generations: an Initiative about Generative AI" (MTSR 2023) | "An Introduction to Reinforcement Learning and an Application to the Inventory Management Problem" (Technoprobe SpA – 2023) | Operations Research and Resource Planning (UniMiB BSc Course – 2023) | Operational Research: Theory and Applications (PoliTo MSc Course – 2022)

Memberships: IEEE - Institute of Electrical and Electronics Engineers (Young Professionals Member – 2022) | AIxIA - Italian Association for Artificial Intelligence (Member – 2020) | AIRO - Italian Association of Operations Research (Young Member – 2023) | ADI - Italian Association of PhD Candidates and PhDs (Member – 2021) | MADLab - Models and Algorithms for Data and Text Mining (Member – 2019) | RipetHub APS (Founder and President – 2020)

Education

3rd Year   **PhD in Artificial Intelligence (Industry 4.0)**, *Polytechnic of Turin* | Turin, Italy   *2021-Present*

Awards: 2nd Prize @ Best Student Research "Video & Poster Competition" in the "Green Technologies and Applications" line (IEEE EUROCON 2023) | $150 Award @ Poster Competition (M2L 2022) | University Scholarship (University of Milano-Bicocca 2016, 2017, 2018, 2019, 2020)

International Conferences: AIxIA 2023 (Oral Paper Presentation) | ECML PKDD 2023 (Oral Paper Presentation) | POMS 2023 (Attendee) | IEEE EUROCON 2023 (Poster Presentation) | AYW 2023 (Attendee) | EWRL 2022 (Poster Presentation) | PGBH 2021 (Attendee) | AIxIA 2021 (Attendee) | AIxIA 2020 (Attendee) | MDAI 2019 (Local Organizing Committee)

International Summer Schools: International Society for Inventory Research (ISIR) Summer School 2023 (Cardiff University) | Mediterranean Machine Learning (M2L) Summer School 2022 (University of Milano-Bicocca)

Courses: Advanced Deep Learning Models and Methods (PoliMi) | Reinforcement Learning (PoliMi) | An Introduction to Optimization over Time and its Application to Online Machine Learning and Reinforcement Learning (UniGe) | Integer Programming and Combinatorial Optimization (UniPv) | Modeling and Problem Solving with Stochastic Programming (PoliTo) | Industry 4.0 and the Industrial Internet of Things: Challenges and Enabling Technologies (UniBo)

110/110L   **MSc Degree in Computer Science (LM-18)**, *University of Milano-Bicocca* | Milan, Italy   *2019-2021*
110/110L   **BSc Degree in Computer Science (L-31)**, *University of Milano-Bicocca* | Milan, Italy   *2016-2019*

Skills

Projects: A list of selected projects is available on GitHub.
Programming: Python, R, MATLAB, Java, C/C++, Git, LaTeX
Certificates: 24 CFU for Teaching (MIUR - 2022) | iBicocca Silver (University of Milano-Bicocca – 2020) | Probabilistic Graphical Models - Specialization (Stanford University – 2020) | Introduction to Data Mining - Pathway (University of Milano-Bicocca – 2019) | Database, Analytics & Management (Amazon Web Services – 2019) | Elements of AI (University of Helsinki – 2018) | Fundamentals of Digital Marketing (Google – 2018) | Samsung Innovation Camp (Samsung – 2018) | Cisco CCNA - Routing and Switching (Cisco – 2016)

Languages

Italian   Native
English   Professional Working Proficiency

Publications

[1]   **Stranieri, F.**, Fadda, E., Stella, F., "Combining deep reinforcement learning and multi-stage stochastic programming to address the supply chain inventory management problem," *International Journal of Production Economics*, vol. 268, p. 109 099, Feb. 2024, ISSN: 0925-5273. DOI: 10.1016/j.ijpe.2023.109099. URL: http://dx.doi.org/10.1016/j.ijpe.2023.109099.

[2] Archetti, A., **Stranieri, F.**, Matteucci, M., "Deep survival analysis for healthcare: An empirical study on post-processing techniques," *Proceedings of the 2nd AIxIA Workshop on Artificial Intelligence For Healthcare (HCAIxIA 2023) co-located with the 22nd International Conference of the Italian Association for Artificial Intelligence (AIxIA 2023)*, vol. 3578, no. 9, p. 99, Dec. 2023, ISSN: 1613-0073. URL: https://ceur-ws.org/Vol-3578/paper9.pdf.

[3] **Stranieri, F.**, Stella, F., *Comparing deep reinforcement learning algorithms in two-echelon supply chains*, 2022. DOI: 10. 48550/ARXIV.2204.09603. URL: https://arxiv.org/abs/2204.09603.

[4] Ruggieri, A., **Stranieri, F.**, Stella, F., Scutari, M., "Hard and soft em in bayesian network learning from incomplete data," *Algorithms*, vol. 13, no. 12, p. 329, Dec. 2020, ISSN: 1999-4893. DOI: 10.3390/a13120329. URL: http://dx.doi.org/10. 3390/a13120329.