

Salvatore RAIELI

PhD

www.linkedin.com/in/salvatore-raieli/
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Italian: mother tongue
English: C1 level
French: C1 level
Spanish: B1 level

Education

2021 – 2023: MSc in Artificial Intelligence – University of Leeds, part-time. Mark: Distinction

2013 – 2016 PhD Curie Institute, Vassili Soumelis's Team

2009 – 2012 Master's Degree Graduation in Pharmaceutical Biotechnology - University of Bologna, Mark: 110/110 cum laude

2006 – 2009 Bachelor's Degree Graduation in Biotechnology - University of Palermo. Mark: 110/110 cum laude

Certification

- **Green and Black Six Sigma**
- **ITIL 4 Foundation for IT management**
- **XCS224N – Natural Language Processing with Deep Learning** – Stanford online

Experienced Data Scientist with a proven track record in driving AI innovation for healthcare and drug discovery. Combining a PhD in Immunology and an MSc in Artificial Intelligence, I specialize in developing advanced solutions, including deep learning, LLMs, and graph-based models, to accelerate target identification and streamline drug development. Adept at leading cross-functional teams, managing large-scale projects, and delivering measurable results, I excel in aligning AI strategies with business objectives to generate actionable insights and strategic impact

Professional experience

2021 – Ongoing: Oncodesign, Senior data scientist, France

- **Oncology and Drug Discovery:** Improved target identification and selection processes, accelerating workflows for biology and chemistry departments from months to weeks.
- **AI Solutions:** Developed neural networks for multi-omics integration and graph-based drug discovery.
- **NLP Leadership:** Led large language model (LLMs) and AI agent pipelines to automate target identification and deliver actionable insights (80% time saved for target decision).
- **Project Management:** Managed AI projects, leading a team of 4 to boost R&D efficiency.

2017 -2021 Biogen, data scientist, Italy

- **Oncology and Machine Learning:** Designed a pipeline using CNNs and transfer learning to screen drug compounds (1000+ at each run), enabling rapid selection of potential combinatorial drug targets.
- **Bioinformatics Expertise:** Created and managed end-to-end platforms for imaging and biomedical data analysis
- **Data Analysis Leadership:** Oversaw RNA expression database generation and RNA-seq analysis.
- **Team and Collaboration Management:** Led a team of 5 and partnered with hospitals, academia, and industry.
- **Stakeholder Communication:** Delivered reports and visualizations for investors and stakeholders.

2013 -2016 Curie Institute, PhD student in Immunology, France

- **Immune-Oncology and Infectious Diseases**
- **Experimental and Computational Skills:** bioinformatics, and statistical analysis.
- **Project and Publication Management:** Experienced in leading projects



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Awards

Intel DevMesh AI Spotlight Award 2019 Peter Moss
AML/ALL AI Research Project

Skills

- Machine Learning and Neural Networks (DNN, CNN, LLM)
- Python (TensorFlow, PyTorch, scikit-learn, HuggingFace), R, and SQL
- Project Management and Team Leadership
- Effective Communication and Presentation Skills
- Cross-functional Collaboration and Stakeholder Engagement
- Hiring and Team Development
- Mentorship and Training of Team Members
- Adaptability and Problem Solving

Volunteering

2018 - Ongoing: Data science & Immunology AI R&D, Asociación de Investigación en Inteligencia Artificial Para la Leucemia Peter Moss, Spain

- **AI Development:** Created AI models for leukemia detection and SARS-CoV-2 research.
- **Research Support:** Published tutorials on integrating machine learning into biology, available on Medium.
- **Mentorship:** Delivered seminars and tutored students in AI and bioinformatics.

Select bibliography

Books

- **Modern AI agent**, - Pack Publishing – invited author

Articles

- **Escaping the Forest: Sparse Interpretable Neural Networks for Tabular Data**, S. Raieli,et al., arxiv, 2024.
- **SwiftDossier: Tailored Automatic Dossier for Drug Discovery with LLMs and Agents**, G. Fossi, et al., arxiv, 2024 – directed the project and corresponding author
- **Integrating Large Language Models for Genetic Variant Classification**, Y. Boulaimen, et al., arxiv, 2024, co-directed
- **MYCN Drives a Tumor Immunosuppressive Environment Which Impacts Survival in Neuroblastoma**, S. Raieli,et al., Frontiers in oncology, 2021
- **TLR1/2 Orchestrate Human Plasmacytoid Predendritic Cell Response to Gram+ Bacteria**, S. Raieli,et al, Plos Biology, 2019

Other article in preparation (4), published (9), Oral presentation (4) poster (5)

Other information

Teaching in University

- **LLM in medicine**, DU IA University of Burgundy

Technical blog

- Medium, 10K follower, 1M visits, cited in different scientific articles

