Giovanna Nicora

Curriculum Vitae

Personal Data

Publications   Google Scholar, ORCID ID

Current position

From August 2023   **Assistant professor (RTDa)**, *University of Pavia*, Pavia (Italy).

Experience

Dec 2021 - Jul 2023   **Senior Bioinformatician, Artificial Intelligence Scientist**, *enGenome S.r.l.*

Dec 2020-Nov 2021   **Post-Doc Research Fellow**, *Università degli Studi di Pavia*, Department of Electrical, Computer and Biomedical Engineering , Pavia (Italy).

Advisor: *Prof. Riccardo Bellazzi*

Oct 2017-Nov 2020   **PhD Student in Health Technology, Bioengineering and Bioinformatics**, *Università degli Studi di Pavia*, Department of Electrical, Computer and Biomedical Engineering, Pavia (Italy).

Advisor: *Prof. Riccardo Bellazzi*

Feb 2019–Jul 2019   **Visiting PhD student**, *Bioinformatics Laboratory, Faculty of Computer and Information Science*, The University of Ljubljana, Ljubljana (Slovenia).

Supervisor: *Prof. Blaž Zupan*

Jan 2017–Sept 2017   **Research Scholarship**, *Università degli Studi di Pavia*, Department of Electrical, Computer and Biomedical Engineering, Pavia (Italy).

Advisor: *Prof. Riccardo Bellazzi*

Education

2017–2020   **PhD in Bioengineering, Bioinformatics and Health Technologies**, *Università degli Studi di Pavia*, Pavia (Italy).

Thesis title: *Artificial Intelligence Strategies For Genomic Variant Interpretation in Hematological Cancer*

2014–2016   **Master's in Bioengineering**, *Università degli Studi di Pavia*, Pavia (Italy).

Duration of the degree: *2 years*. Score: *110 out of 110*

2011–2014   **Bachelor in Bioengineering**, *Università degli Studi di Pavia*, Pavia (Italy).

Duration of the degree: *3 years*. Score: *107 out of 110*

2006–2011 **Scientific high school diploma**, *Istituto di Istruzione Superiore Galileo Galilei*, Voghera (Italy).

Duration: *5 years*. Score: *97 out of 100*

Teaching activity

2023-2024 **Teaching** "Fondamenti di Informatica" for the *Medicine Enhanced by Engineering Technologies* (MEET) course

Institution: *Università degli Studi di Pavia, Faculty of Medicine*

2023-2024 **Teaching** "Laboratory of Medical systems and devices" for the *Bachelor of Artificial Intelligence* (3rd year) course

Institution: *Università degli Studi di Pavia, Università degli Studi di Milano Statale, Università degli Studi di Milano-Bicocca*

2023, June 23rd Master Biologia e Biotecnologie della riproduzione: "Sistemi di supporto per le decisioni cliniche" and "Ampliare la visione: bioingegneria e medicina della riproduzione"

Institution: *Università degli Studi di Pavia, Dipartimento di Medicina Interna e Terapia Medica*

2021 Master Genetica Oncologica: "Bioinformatics solutions to support Genomic Variant Interpretation in Precision Oncology". Reference professor: Riccardo Bellazzi

Institution: *Università degli Studi di Pavia, Dipartimento di Medicina Interna e Terapia Medica*

2020-2021 **Python Teaching Assistant** for the *Medicine Enhanced by Engineering Technologies* (MEET) course

Institution: *Università degli Studi di Pavia, Faculty of Medicine*

Reference professor: *Prof. Cristiana Larizza*

June 29th, 2023 Speaker within the training event for clinicians "Real World Evidence (RWE): vantaggi, limiti e applicazioni". Title of the talk: "Esempio di studio in ematologia". Held in Milan

2018–2022 **Biomedical Informatics Tutor (Matlab)** for biomedical engineering courses

Institution: *Università degli Studi di Pavia, Faculty of Engineering*

Reference professor: *Prof. Lucia Sacchi, Prof. Riccardo Bellazzi*

2018–2021 Internet and Medicine Tutor for biomedical engineering courses

Institution: *Università degli Studi di Pavia, Faculty of Engineering*

Reference professor: *Prof. Giordano Lanzola*

Outreach and public engagement

2018-2019 Speaker at educational conferences for high school students in Liceo Foscolo, Pavia (reference high school professors Danilo Del Pio and Laura Pavesi)

2024   Speaker at UniStem Day (March 22th, 2024). UniStem is an initiative of the University of Pavia to promote STEM education for high-school students. Liceo Scientifico Copernico, Pavia

Leadership and management roles

2016-   **Co-supervisor and supervisor** of more than 6 bachelor and more than 5 master's theses in bioengineering at the University of Pavia

Reference professors: *Prof. Riccardo Bellazzi*, *Prof. Paolo Magni*

2023-   I am organizing the "**ML Friday**" Journal Club within the Laboratorio di Informatica Biomedica "Mario Stefanelli" (BMI), where PhD and master students present one relevant paper about ML in medicine every month

2024   Chair organizer of the Data-Driven Healthcare Transformation 2nd Edition - MEDAI Summer school for PhD students, to be held from Septembed 23th to 26th, 2024

Invited Talk

2023, May 23rd   **Invited seminar**, University of Florida: A primer on prediction model design, implementation and evaluation. Reference professor: Simone Marini

2023, September 25   **Invited talk** "Intelligenza Artificiale come supporto alla diagnosi delle malattie rare" within the XI edition of the biotech week, Collegio Nuovo, Pavia

2024, March 14   **Invited talk** "Intelligenza Artificiale in Medicina: passato, presente e futuro nel contesto dei nuovi regolamenti europei", seminar within the event "Intelligenza Artificiale in Sanità: profili tecnici e regolatori" coordinated by professor Giulia Avanzini. Dipartimento di Giurisprudenza, Pavia

2024, May 23-24   **Invited talk** L'importanza dell'explainable AI per assicurare un approccio human in command within the Corso Residenziale Intensivo su Innovazioni Tecnologiche in Pediatria: Intelligenza Artificiale and "Telepediatria". Reference professor: Barbara Di Camillo

Other activities

Reviewer for different peer-reviewed journals, such as the Journal of Biomedical Informatics (JBI), Human Mutation, The Journal of the American Medical Informatics Association (JAMIA)

Program Committee Member of the Special Session Actionable Explainable AI (AxAI) inthe Cross Domain Conference for Machine Learning and Knowledge Extraction (CD-MAKE 2023)

Review Committee Member of the IEEE EMBC 2024

Presentations

2024   **Panelist** for the accepted mini-symposium "Trustworthy AI in medicine: implications for data, algorithms and systems", IEEE EMBC, July 2024, Orlando (Florida)

2023	**Panelist** "Trustworthy AI for Healthcare: what does it mean and where are we at?", AMIA Informatics Summit, March 16th, Seattle (WA)
2023	**Oral presentation** "Predicting emerging SARS-Cov-2 Variants of Concern through a One-Class dynamic anomaly detection algorithm", AMIA Informatics Summit, March 16th, Seattle (WA)
2023	**Poster presentation** "Evaluation of Machine Learning Predictions' Reliability with generative models: towards Trustworthy AI " at the BHI IEEE conference, October 2023, Pittsburgh (PA)
2023, 2022, 2018	**Poster presentations** at the ESHG (European Society of Human Genetics) conference, Glasgow (UK), Vienna (Austria), Milan (Italy)
2022	**Oral presentation** at the MIE (Medical Informatics Europe) conference, Nice (France)
2021	**Oral presentation** at SMARTERCARE, a workshop of the Italian Association of Artificial Intelligence (AIxIA) virtual conference
2020	**Oral presentation** at AMIA (American Medical Informatics Association) Annual Symposium 2020 (virtual)
2019	**Oral presentations** at the 17th AIME (Artificial Intelligence In Medicine in Europe) Conference (Poznan, Poland)
2019	**Poster** at AMIA (American Medical Informatics Association) Informatics Summit, San Francisco (CA)
2018	**Oral presentation** at AMIA (American Medical Informatics Association) Informatics Summit, San Francisco (CA)

International and national organization, Awards

2021	National prize for doctoral thesis in the Bioengineering area, National Bioengineering Group (GNB), Italy
2021–	DAAD AInet fellow. This fellowship by the German Academic Exchange Service recognizes early-career researchers in the field of Artificial Intelligence
2024–	Member of the IEEE
2023-	Member of SIBIM (Società Scientifica Italiana di Informatica Biomedica)
2021-2022, 2024-	Member of the Associazione Italiana Intelligenza Artificiale (AIxIA)
2018–2019	Student Member of the American Medical Informatics Association (AMIA)
2019	Founder student fellow of the *National Bioengineering Group* (GNB) association, Italy

Patent

2020	European Patent N. WO2022029567 : A METHOD FOR DETERMINING THE PATHOGENICITY/BENIGNITY OF A GENOMIC VARIANT IN CONNECTION WITH A GIVEN DISEASE (Italian Patent N. 102020000019180)

2023   Italian Patent N. 102023000000363: METODO PREDITTIVO PER DETER-
MINARE IL MECCANISMO DIGENICO DI UNA COMBINAZIONE DIGENICA
RICONOSCIUTA COME PATOGENICA

Pavia, June 7, 2024