

Antonio Collesei

Address: via A.Zacco, 12, Padua, Italy

Place of birth: Padua, Italy * *Date of birth:* 16-11-1993

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Research & Education

Ph.D. in Bioinformatics

University of Padua

Advisor(s): Fabio Vandin, Stefano Indraccolo

2020 - 2023

Part of VandinLab @ DEI & Cancer Genomics Lab @ IOV-IRCCS

Representative of doctoral students at departmental level

Main Project: Inferring biological knowledge from omics data with graph theory and causal techniques

Master's degree in Machine Learning

University of Padua

Advisor: Fabio Vandin

2019 - 2020

Complementary degree with focus on ML and Big Data in precision medicine

Project: Neural Network model to predict pharmacological efficacy in cancer patients

Master's degree in Biomedical Engineering

University of Padua / CCB Innsbruck

Advisor(s): Barbara Di Camillo, Francesca Finotello, Zlatko Trajanoski

2015 - 2017

Curriculum in biological data analysis and elaboration

Obtained Erasmus+ Grant

Thesis: Quantifying immune contexture of tumors using sequencing and imaging data [\[link\]](#)

Bachelor's degree in Information Engineering

University of Padua

Advisor: Gianna Maria Toffolo

2012 - 2015

Summer School in Brixen

Thesis: Mathematical Modeling of epidemic HIV Infection

Industry experience

Veneto Institute of Oncology, IOV-IRCCS

2020 - ongoing

Data Scientist

Padua, Italy

- Re-organized the genomic data storing center of the Hereditary Tumors Department
- Developed "doctor-friendly" pipelines to interpret Single Nucleotide Polimorphisms and Copy-Number Variations
- Appointed as reference person for the Institute within the Alliance Against Cancer Network

Inventis srl

2018 - 2020

Product Engineer & Scientific Liaison

Padua, Italy

- Curated the scientific company knowledge.
- Proposed substantial modifications to both product usability and design.
- Performed oral presentations in multiple countries and languages, to industry stakeholders, and university students.

Technical skills

Programming Languages/Tools

Python, R, Shell, L^AT_EX

List of Publications

- 2023** *Is Machine Learning Useful to Predict Flare During Pregnancy in Systemic Lupus Erythematosus?* **Under review**
- 2023 (*)** *ALLSTAR: Inference of Reliable Causal Rules between Somatic Mutations and Cancer Phenotypes.* **Under review**
- 2023** *Comorbidities in the Spondyloarthritis GISEA Cohort: an Average Treatment Effect analysis on patients treated with bDMARDs.* **Under review**
- 2023 (*)** *Which extra-renal flare is "difficult to treat" in systemic lupus erythematosus? A one-year longitudinal study comparing traditional and machine learning approaches.* **British Journal of Rheumatology**
- 2022 (*)** *Multi-Design Differential Expression Profiling of COVID-19 Lung Autopsy Specimens Reveals Significantly Deregulated Inflammatory Pathways and SFTPC Impaired Transcription.* **Cells**

* = First Author, ★ = Last Author

Conferences

- CIBB 2023** Twenty-minute talk. [Upcoming, Padua, Italy]
- ISMB/ECCB 2023** Twenty-minute talk in HiTSeq COSI. [Upcoming, Lyon, France]
- RECOMB 2023** Poster presentation. [Istanbul, Turkey]
- Lipari Summer School 2022** Three-minute presentation. [Lipari, Italy]
- RECOMB 2021** Member of the Poster evaluation committee. [Padua, Italy]

Grants, Scholarships and Awards

- 2022** Best Ph.D. project presentation in the field of Medicine, Biomedical Sciences and Biotechnologies at University of Padua.
- 2020** Fully-funded 3-year Ph.D. scholarship at University of Padua
- 2017** Research Grant at the Medical University of Innsbruck (additional to Erasmus+ Scholarship)
- 2016** Erasmus+ Thesis Scholarship

Thesis students

- Paola Donolato** 2022 - 2023
Co-Advisor
Master's Thesis: Investigation of the usage of Rademacher Averages for causal rule discovery

Language proficiencies

- Italian** Native language
- English** Fluent both in formal and informal setting. Level: C1 (IELTS)
- Spanish** Informal and conversational level. Level: B1 (School course)
- German** Basic conversational level. Level: A1/A2 (University course)

Extracurricular activities

- Hidden Embers** 2013 - ongoing
Short movie production crew
Participated as actor and/or screen-writer in multiple prize-winning projects. Awards in 2013, 2015, 2017, 2018, 2019, 2021 and 2023.
- RadioBue** 2013 - 2015
Radio speaker

Hosted a weekly sport-related radio program. Radio commentator for the football's Men World Cup 2014 in Brazil.

Football player

2010 - ongoing

First team player

Regular in multiple teams at regional level. Experience abroad at Union Innsbruck.

References

- **Prof. Fabio Vandin**, fabio.vandin@unipd.it, *Technical research referee*
- **Prof. Stefano Indraccolo**, stefano.indraccolo@unipd.it, *Medical research referee*
- **Dr. Francesca Schiavi**, francesca.schiavi@iov.veneto.it, *Medical research referee*
- **Marco Turetta**, marco.turetta@inventis.it, *Industry referee*