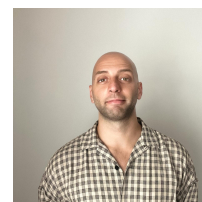


# Lorenzo Di Rocco

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📅 19th of July, 1994



## Research Interests

- 📌 **Bioinformatics.**
- 📌 **High-Performance Computing.**
- 📌 **Statistical Learning in Computational Genomics and Pangenomics.**

## Education

- 2023 – now 📌 **Visiting Ph.D Student, Genome Data Science Group**, Bielefeld University, Germany.  
Supervisor: Prof. Dr. Alexander Schönhuth
- 2021 – now 📌 **Ph.D. Methodological Statistics**, Sapienza University of Rome, Italy.
- 2017 – 2020 📌 **M.Sc. Statistical and Decision Sciences**, Sapienza University of Rome, Italy.  
Thesis title: *Application of Apache Spark for alignment-free analysis of genomic sequences.*
- 2014 – 2017 📌 **B.Sc. Economic Sciences**, Roma Tre University, Italy.

## Academic Positions

- 2021-2022 📌 **Temporary Research Fellow**, Sapienza University of Rome, Italy.  
*Start Date:* 03/2021  
*End Date:* 02/2022  
*Supervisor:* Prof. Umberto Ferraro Petrillo  
*Description:* Winner of a research fellowship granted by the Department of Statistical Sciences at Sapienza University of Rome.
- 2020-2021 📌 **Research Project Associate**, Sapienza University of Rome, Italy.  
*Start Date:* 08/2020  
*End Date:* 01/2021  
*Supervisor:* Prof. Umberto Ferraro Petrillo  
*Description:* I collaborated with the Department of Statistical Sciences at Sapienza - University of Rome, at the design and the development of distributed algorithms for the analysis of protein-to-protein interaction networks, under the framework of the EIT Health European project on "Big Data Software Services for Decision Support in Precision Medicine".

## Summer Schools

- 5-8 July 2022 📌 **Introduction to Pangenomics**, Lake Como School of Advances Studies, Italy. Organizers: Prof. Paola Bonizzoni (Univ. Milano-Bicocca), Prof. Gianluca Della Vedova (Univ. Milano-Bicocca), Prof. Alex Schoenhuth (Univ. Bielefeld, Germany)
- 3-15 July 2023 📌 **Summer School on Parallel Computing**, CINECA - Bologna Offices Italy. Organizers: Dr. Emerson Andrew (CINECA).

## Projects

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### Active Projects

- **Principale Investigator of a Class C ISCRA Project**  
*Title:* Efficient Pangenome-based Inference for Genomic Variants using New Era Statistical Methods.  
*Value:* 20,000 CORE/h to spend on Galileo100 system at CINECA
- **Member of Research Project funded by Sapienza University of Rome**  
*Title:* Advancing Precision Public Health Medicine: High-Performance Computing for Efficient Solutions to Bioinformatics and Biostatistical Challenges
- **Member of Research Project funded by Sapienza University of Rome**  
*Title:* Unlocking the Potential of Artificial Intelligence for Generating Synthetic Patients in Clinical Trials

### Past Projects

- 2021-2023 ■ **Collaborator on the AIGREET Project**  
*Supervisor:* Prof. Umberto Ferraro Petrillo  
*Description:* In partnership with Sapienza University of Rome, Andersen Italia and Internationalia, the AIGreet project exploits web scraping techniques and artificial intelligence to automatically recognize and track the progress of green investments.

## Events

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- 2024 ■ **CIBB 2024 - 19TH Conference on Computational Intelligence Methods For Bioinformatics and Biostatistics**  
*Role:* Program Committee Member
- 2023 ■ **CIBB 2023 - 18TH Conference on Computational Intelligence Methods For Bioinformatics and Biostatistics**  
*Role:* Program Committee Member
- **Special Session in Distributed Computing in Bioinformatics and Computational Biology**  
*Role:* Organizer

## Teaching Experience

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- 2022 - 2023 ■ **Introduction to Deep Learning**  
*Role:* Teaching Assistant  
*Institution:* Specialization School in Health Statistics and Biometry.
- **Introduction to Statistical Learning**  
*Role:* Teaching Assistant  
*Institution:* Department of Statistical Sciences, Sapienza University of Rome.

## Teaching Experience (continued)

2021 - 2022

### **R-Programming**

*Role:* Teacher

*Institution:* Advanced Training Course in Bioinformatics, Sapienza University of Rome.


### **Big Data Management**

*Role:* Teaching Assistant

*Institution:* Department of Statistical Sciences, Sapienza University of Rome.

## Skills

Coding

 Python, C++, Java, Scala, R

Databases

 MySQL, Neo4J, MongoDB.

## Research Publications

- 1 L. Di Rocco and U. Ferraro Petrillo, "A distributed alignment-free pipeline for human snps genotyping," in *Proceedings of the 14th ACM International Conference on Bioinformatics, Computational Biology, and Health Informatics*, 2023, pp. 1–8.
- 2 L. Di Rocco, U. F. Petrillo, and G. Grani, "Enhancing scalability of distributed snps calling pipelines using cluster-driven partitioning strategy," 2023.
- 3 G. Grani, L. Di Rocco, and U. F. Petrillo, "Using knowledge graphs to model green investment opportunities," in *European Conference on Advances in Databases and Information Systems*, Springer, 2023, pp. 440–451.
- 4 L. Amorosi, L. D. Rocco, and U. F. Petrillo, "Scheduling k-mers counting in a distributed environment," in *Optimization in Artificial Intelligence and Data Sciences: ODS, First Hybrid Conference, Rome, Italy, September 14-17, 2021*, Springer, 2022, pp. 73–83.
- 5 L. Di Rocco, U. Ferraro Petrillo, and S. E. Rombo, "Diamin: A software library for the distributed analysis of large-scale molecular interaction networks," *BMC bioinformatics*, vol. 23, no. 1, p. 474, 2022.
- 6 L. Di Rocco, U. F. Petrillo, and F. Palini, "Large scale graph based network forensics analysis," in *Pattern Recognition. ICPR International Workshops and Challenges: Virtual Event, January 10–15, 2021, Proceedings, Part V*, Springer, 2021, pp. 457–469.