

Sara Cocomello

Education

Università degli Studi di Trieste, Italy

NOV 2024 -
CURRENT

Phd candidate in Applied Data Science and Artificial Intelligence (ADSAI)

- Developing a R package for the precise timing of Copy Number alterations across multiple genomic segments, enhancing the analysis of cancer progression and heterogeneity.
- Applying state-of-the-art bioinformatics pipelines, statistical and deep learning models to analyze real-world cancer data from leading Italian oncology institutions.
- *Supervisor:* G. Caravagna

Università degli Studi di Trieste, Italy

SEP 2022 -
CURRENT

MSc in Data Science and Scientific Computing (DSSC) – Final Grade: 110/110 cum laude

- Relevant Coursework: **Advanced Programming and Algorithmic Design (30)**, Data Management for Big Data (30L), Introduction to Machine Learning (30), Statistical Methods for Data Science (30L), Probabilistic Machine Learning (30), Numerical Analysis (29), Information Retrieval and Data Visualization (30), Foundations of High Performance Computing (29), Computational Biology (30L), Deep learning (30), Bayesian Statistics (29), Unsupervised Learning (27)
- *Supervisor:* G. Caravagna
Master Thesis: "Bayesian Hierarchical Mixture model for Copy Number timing of tumour genomes": integrating information from multiple genome regions to infer characteristics paths in the driver events acquisition during cancer disease progression".

Università degli Studi di Trento, Italy

SEP 2018 - MAR 2022

BSc Economics and Management – Final Grade: 110/110 cum laude

- Relevant Coursework: Econometrics, Mathematical Models for Economical Applications, Statistics Probability and Inference, Business Finance, Statistics for Economics, Data Analysis and Statistics, PDE–Academic Writing and Presentation Techniques
- *Supervisor:* C. Fezzi
Bachelor's Thesis: "Non market valuation of the pine forest of Vindicio using the travel cost method".
Use of Tobit model (econometric model for censored data) due to the peculiar data distribution for the demand.
Construction of the survey for the online collection of primary data used to identify the population's willingness to pay and develop a monetary estimate of access to the recreational site by the travel cost model.
- Programming language **R**

Academic Activities

RECOMB Conference 2025 - Research in Computational Molecular Biology, Seoul, Korea

APR 2025

Conference paper presentation

- Presentation of the paper: "Timing and clustering co-occurring genome amplifications in cancers" at the satellite conference RecombCCB and poster presentation

Università degli studi di Trieste

MAY 2024 - SEP 2024

Tutoring

- **Orienting activities for new students applying or already part of the master degree in Data Science at the University of Trieste**

Research Experience

Università degli Studi di Trieste, Italy

GEN 2024 -

CURRENT

Trainee Student

Supervisor: G. Caravagna

- Collaboration to the Cancer Data Science Lab's research activities with professor Giulio Caravagna. Investigate the dynamics of evolution and disease progression of cancer cells populations. Application to high dimensional biological data of Bayesian inference with probabilistic programming (Stan). Design probabilistic graphical models to infer the dynamic pathways by which many traits are acquired or lost over time (CNAs) and potentially interact among themselves, by comparing cross-sectional or longitudinal data of patients trajectories obtained through CNAqc tool.
- Python, Pyro, R, Stan

Honors and Awards

Collegio Universitatio Luciano Fonda

SEP 2022 -

CURRENT

Scholarship holder

Scholarship 2022,2023. Officially recognized as a "Merit-Based University College", offers free access to interdisciplinary courses to deepen the training path.

Università degli Studi di Trento, Italy

2019 - 2021

PDE (Percorso di eccellenza) Department of Economics

Diversify the training offer in order to enable students more motivated and able to follow a particularly challenging and formative study path.

Extra Curricular Activities

Enactus Trento Association

2020

Social Media Manager

Network of leaders committed to using business as a catalyst for positive social and environmental impact

Samsung Innovation Camp; Samsung and Randstad

NOV 2019

Hard and soft skills to guide the digital transformation of any workplace.

MARKSTRAT Online Challenge

2021

Highly competitive business game, making critical decisions in R&D, marketing & sales strategy. Key is to collaborate and get to know new peers across universities globally