

# Matei Gabriel Cosa

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## EDUCATION

- **Bocconi University** Milan, Italy  
Bachelor of Science in Economics, Management and Computer Science; **GPA: 30.53/30 Cum Laude** Sep 2021 - Present
  - **Recipient of Bocconi Excellence Award:** Scholarship awarded to the **top 15 students** from all programs based on GPA
  - **Completed Coursework (First & Second Years):** Machine Learning, Applied Mathematics, Advanced Statistical Methods, Computer Programming, Fundamentals of Computer Science, Principles of Finance, Econometrics
  - **Current Coursework:** Big Data and Databases, Elements of Real and Fourier Analysis, Theoretical Computer Science, Game Theory & Mechanism Design, AI Applications in Economics, Computational Applications in Accounting
- **Mihai Viteazul National High School** Bucharest, Romania  
High School Diploma in Mathematics and Computer Science (Intensive Computer Science); **GPA: 9.91/10** Sep 2017 - Jun 2021

## TECHNICAL SKILLS

- **Programming/Scripting Languages:** Python (including NumPy, SciPy, Matplotlib, scikit-learn, pandas, PyTorch, NetworkX), R (including some Tidyverse packages), SQL, PL/SQL, C++ (limited programming proficiency), Unix/Linux commands, LaTeX
- **Software:** Microsoft Office, Jupyter Notebooks & Anaconda Distribution, Tableau (basic usage)

## EXPERIENCE

- **Bocconi Institute for Data Science and Analytics** Milan, Italy  
Research Intern Jan 2023 - Present
  - **Online Machine Learning & Optimisation:** Currently working with prof. A. Celli & prof. M. Elias to investigate the impact of predictions on various online learning problems, from the 'secretary problem' to combinatorial bandits.
  - **Network Science:** Currently working with prof. O. Papaspiliopoulos & prof. D. Durante to analyse international drug trafficking networks using computational techniques to observe patterns and evaluate the impact of different policies.
  - **Teaching:** Taught a Data Science lab in front of over 70 high school students during the 2023 Bocconi Summer School. Prepared theoretical materials and Jupyter Notebooks to cover elementary linear algebra, basic Python coding, and Principal Component Analysis. Guided the students through performing data analysis for several applications, ranging from breast cancer detection, to understanding relations between happiness levels and socio-economic indicators.
- **Orange** Bucharest, Romania  
ERP Development & Database Systems Summer Intern Jun 2022 - Aug 2022
  - **Job Description:** Worked for the Data, AI & Enterprise Solutions Department of Orange Romania S.A. Contributed to the implementation of the SAF-T (Standard Audit File for Tax) reporting format into Oracle E-Business Suite.
  - **Problem Solving:** Analyzed the task together with Business Intelligence and Financial teams and came up with solutions for implementing data pipelines to gather, organise and process terabytes of data. Created reports and optimised SQL queries that led to a decrease in execution time by 30% to 50%.
  - **Skills:** Used SQL and PL/SQL and leveraged accounting and economic knowledge to translate the business task into efficient and robust code. Was exposed to API's and Linux/Unix commands, as well as corporate workflows for software development.

## EXTRACURRICULAR ACTIVITIES

- **Bocconi AI & Neuroscience Student Association:** Worked under the guidance of prof. L. Saglietti to construct a Knowledge Graph of the English Wikipedia containing over 5.8 million nodes and 130 million edges extracted from over 70GB of raw data. Analyzed the similarity between pages without accessing their content by leveraging heuristics and state-of-the-art Graph Neural Networks. The project was awarded First Place at the association's annual research awards by a jury of Bending Spoons AI Researchers and Data Scientists.
- **Learning Needs Peer-to-Peer Volunteering Initiative:** Helped Bocconi students with Specific Learning Disorders (SpLDs) understand and apply introductory college-level mathematics with a special emphasis on linear algebra and real analysis.

## LICENSES & CERTIFICATIONS

- **Google Data Analytics Certificate:** Learned how to clean, process and analyze data with Google Sheets/Microsoft Excel, SQL, and R. Was introduced to data visualization techniques using Tableau and R. Also developed presentation and communication skills, especially in regard to a non-technical audience.
- **Oracle Database Design Certificate:** Learned about relational databases, entity-relationship diagrams and normalization rules. Practised writing SQL queries and working with data.
- **IELTS English Language Certificate:** Demonstrated the C2 proficiency level by obtaining a score of 8.5/9.
- **Goethe Zertifikat B1:** Obtained the B1 proficiency level (basic conversational proficiency in German).