

Personal & contact

Nationality Spanish and Argentinian

Email alexis.gomel@gmail.com

Website alxgom.github.io/alxgom/

Phone +49 1512 3426526

Residence Switzerland

LinkedIn alexis-gomel-95484278

Kaggle alexisgomel

I am a rigorous and creative physicist with a strong analytical mindset and experience solving complex problems across diverse fields.

My curiosity driven personality has provided me with much experience learning new things which has allowed me to work in diverse topics and quickly integrate into highly multicultural teams, collaborating effectively with colleagues and external partners.

I also enjoy getting involved in my communities, be it in the workplace, by volunteering in science divulgation projects, or in my local dance society (vereine) where I contribute as substitute teacher, Dj, and organizer.

Education

05/18 - 02/23 **PhD in Physical sciences**, *University of Geneva*,

G.P.A: 10/10

03/08 - 04/17 **M.S Physics**, *Universidad de Buenos Aires*,

G.P.A: 8.89/10

Hard skills

Data science Machine learning, data analysis, visualization and storytelling, data cleaning and pre-processing.

Mathematics Regressions, spectral analysis, nonlinear differential equations, linear algebra, time series analysis.

Statistics Ensemble statistics, uncertainty estimation, PCA, k-means, mutual information, KPI.

Programming Python, GIT, SQL, Matlab, Numpy, Pandas, PySpark, Matplotlib, Poetry.

Soft skills

Communication Strong presentation skills in English and Spanish for expert and non-technical audiences.

Collaboration Collaboration in interdisciplinary and multicultural teams.

Mentoring Teaching more than 200 students in schools and universities.

Management Managing research projects and mentoring master students.

Adaptability Ability to quickly learn new topics.

Research Ability do my own research and project documentation.

Language Spanish (native), English (proficient), French (intermediate), German (A2 beginner).

Work experience

- Oct 24 - Today **Professional break & personal development,** **Munich, Germany**
- Upskilled through online courses in data science, and machine learning.
 - Taken part in Kaggle data science competitions to gain real-world experience.
 - Developed personal projects which can be found on my website.
 - Studying German (A2) to enhance communication skills for professional and personal integration.
- Apr 23 - Sep 24 **PDRA Researcher (short contract),** **Reading, United Kingdom,**
Mathematics of Planet Earth, University of Reading
- Developed scripts and algorithms in Python and Matlab for numerical simulation, data analysis and visualization. Developed tools to simulate climate scenarios and assess their impact.
 - Worked with interdisciplinary teams to integrate their insights into my climate models as part of the TIPES (Tipping Points in the Earth System) EU horizon 2020 project.
 - Relocated internationally for a short-term contract to collaborate with a team of interest.
 - **Skills:** Data science & visualization, data analysis, numerical modeling, Python.
- May 18 - Feb 23 **Physics PhD Researcher,** **Geneva, Switzerland,**
Nonlinearity and Climate Group, University of Geneva
- Developed a new multi-scale models for gravity waves, enhancing simulations accuracy and understanding of wave phenomena for complex bathymetry scenarios and leading to a high-impact publication.
 - Developed a theoretical model for extreme waves caused by bathymetry changes, with implications for coral reefs and coastal areas, using analogies from optical systems.
 - Realized and analyzed an experimental validation of the theoretical framework, thanks to a collaboration with the University of Sydney, where I conducted experimental validation in real time using advanced data science techniques and custom KPI, leading to 2 publications in high impact journals.
 - Collaborated with international teams in Sydney to validate theoretical results, leading to long-term research partnerships.
 - **Skills:** Data science, data analysis, theoretical modeling, numerical simulations, collaboration, Python & Matlab.
- May 18 - Dec 22 **A1 Assistant,** **Geneva, Switzerland,**
University of Geneva
- Improved attendance and performance by enhancing coursework experiences, with Python and MATLAB based interactive materials, animations and visualizations.
 - Taught in both English and French, coordinating with faculty to design exams and optimize course content.
 - **Skills:** Mentoring and presentation. Coordination with colleagues and interactive coursework design.
- Feb 16 - Apr 16 **Undergraduate Teaching assistant,** **Buenos Aires, Argentina,**
University of Buenos Aires
- **Skills:** Communication, mentoring, crafting educational materials.