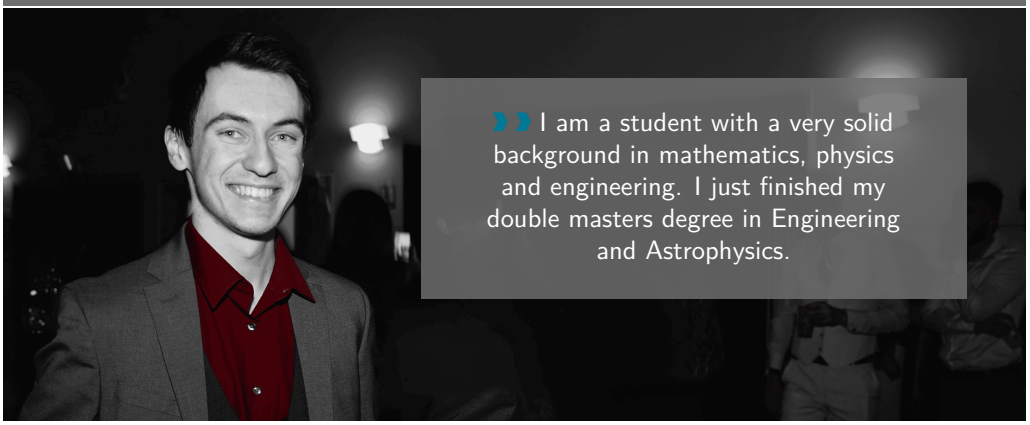
SAMUEL MESQUITA | CV



I am a student with a very solid background in mathematics, physics and engineering. I just finished my double masters degree in Engineering and Astrophysics.

STATUS

Starting a PhD in astrophysics at LPSC in fall 2025.
Will be supervising 60h of physics class at the University during my first year of PhD.

EDUCATION

Astrophysics & Data Science Master 2 — UNISTRA - France, 2024 - 2025

- Study current astrophysical knowledge and methods: galaxy physics, stellar evolution, high-energy phenomena, virtual observatory tools and numerical simulations

QMat Excellence Scholarship — UNISTRA - France, 2024 - 2025

General Engineering Formation — Télécom Physique Strasbourg - France, 2022 - 2025

- Multidisciplinary curriculum which offers a strong approach to understanding diverse engineering and physics principles and applications

Preparatory Classes — Kerichen High School - Brest, France, 2020 - 2022

- Intensive program specialized in mathematics and physics (MPSI/MP), aimed at preparing students for entrance exams to prestigious engineering schools

PROJECTS

6-month internship — Astronomical Observatory of Strasbourg - France, 02-08/2025

- Implementation of a model of star & galaxy formation for the new hybrid simulation code *Dyablo* (C++) using proven semi-analytical formalisms of dark matter halo formation

3-month internship — DIFFER - Netherlands, 06 - 08/2024

- Machine learning exploration of ORR catalytic activity on metallic (110) surfaces
- Use of Python (*fairchem* & *pandas* packages) to discover new catalysts to efficiently store renewable energies. Focused on the Oxygen Reduction Reactions in a fuel cell.

Circumstellar disk — Astronomical Observatory of Strasbourg - France, 05/2024

- Use of Python (*amuse* package) to study the parameters influencing the capture of a satellite by a planet in a forming solar system with a circumstellar disk

Engineering project — Télécom Physique Strasbourg - France, 2023 - 2024

- Use of Python (*scipy* & *tkinter* packages) to develop a software to monitor the supply chain and compute statistical data for nuclear engineering, features a graphical user interface

1-month internship — Astronomical Observatory of Strasbourg - France, 06/2023

- Use of IDL to study the radio emission and star formation in cluster spiral galaxies

Competitive exams project — Kerichen High School - Brest, France, 2021-2022

- Use of Python (*numpy* & *matplotlib* packages) to identify optimal strategies to minimize oscillations in an earthquake-resistant building, adapted for diverse structural designs

INFORMATIONS

18/04/2002
Strasbourg, France
+33 6 70 14 74 69
samesquit@gmail.com
samuel-mesquita

LANGUAGES

French (Native)
English (C1)
Spanish (A2)
German (A2)

SKILLS

Physics
Mathematics
Signal processing
Computer science
Statistical analysis
Data manipulation

IT SKILLS

Python
C/C++
LaTeX
Unix
Matlab
Labview
Comsol
SQL/ADQL

INTERESTS

Badminton
Board games
Video games