

curriculum vitæ of
Angelos Mengoudis

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Ferney-Voltaire, France · 15/06/2002 · Greek (EU citizen) · Driving licence: B

Master's student in Astrophysics at the University of Geneva with training in experimental design, data analysis, and computational methods. Experienced in **Python-based data and image analysis**, with an interest in applying these transferable skills to large-scale interdisciplinary scientific projects in astrophysics and related fields.

EDUCATION

2025 – present	M.Sc. in Astrophysics (2 years)	UNIVERSITY OF GENEVA, SWITZERLAND
	Advanced training in astrophysics with a specialization in astronomical instrumentation and data science, focusing on observational techniques, optics and detectors, advanced data analysis, and the study of exoplanets, stars, galaxies, and large-scale cosmic processes. Current grade: 5.6/6.	
2020 – 2025	B.Sc. in Physics (4 years)	ARISTOTLE UNIVERSITY OF THESSALONIKI, GREECE
	Strong foundation in classical and modern physics with extensive laboratory training, mathematical methods, and computational coursework. Graduated among the top students with a final grade of 8.29/10 .	

MASTER'S THESIS

Ongoing	Development of a polarimeter for RISTRETTO
	Developing and testing a prototype polarimeter for RISTRETTO, a high-resolution spectrograph being developed for ESO's Very Large Telescope (VLT). The project combines optical modelling, Python simulations and weak-signal extraction, with the goal of enabling the first detection of polarized light reflected by an exoplanet.

PROJECTS

2026	Near-infrared detector characterization (NIGHT instrument)
	Noise characterization of HgCdTe (HAWAII) infrared detectors through analysis of calibration and science frames. <i>Supervisors: C. Farret & C. Lovis.</i>
2025	NIRPS guiding camera characterization
	Contrast curves, PSF analysis, and statistical characterization of AO-assisted guiding images. <i>Supervisors: L. Messamah & F. Bouchy.</i>
2025	CNN from scratch (Python)
	Implemented CNN with custom backpropagation and losses; applied to image classification.
2024	Photometric calibration pipeline
	Python-based calibration and reduction of astronomical images (bias/dark/flat, plate solving, catalog matching).
2024	Exoplanet transit analysis (ExoClock)
	Relative photometry and light-curve analysis of exoplanet transits.

WORK EXPERIENCE

2024	Science Communication Intern Guided visitors, supported interactive science activities and planetarium sessions, and communicated technical concepts clearly to diverse audiences.	NOESIS SCIENCE CENTER AND MUSEUM OF TECHNOLOGY
2024	Astro-hike Guide Led nighttime astronomy hikes for groups of 20–30 participants; ensured safety, guided navigation using constellations, and engaged participants through storytelling and hands-on activities.	HIKERS OUTDOOR ACTIVITIES

TECHNICAL SKILLS

Data Analysis & Programming: Python (NumPy, pandas, SciPy, scikit-learn), data cleaning, statistical analysis, machine learning

Astronomy & Scientific Computing: Astropy, Photutils, DS9, Siril; image calibration, photometry, PSF analysis

Visualization & Media: Matplotlib, DaVinci Resolve, Premiere Pro, Lightroom, Photoshop, Google Earth Studio, LRTimelapse

Office & Scientific Writing: Excel, Word, PowerPoint, $\LaTeX$

Geospatial Tools: QGIS

LANGUAGES

Greek – Native

English – Proficient

French – Beginner / currently learning

COMPETITIONS

• World Robot Olympiad (WRO)	2014
• Physics Competition: 2nd Prize	2018
• European Union Science Olympiad (EUSO): 2nd Place in North Greece	2019
• Pan-Hellenic Olympiad in math – Archimedes	2020

VOLUNTEERING

• Rescuer – RescueGR	2022
• Tour guide at the observatory of Aristotle University of Thessaloniki	2023
• Science summer camp for kids (Explora in Noesis)	2024