Timoté LOMBARD

Route du Sous-Mollard
73 160 Vimines, France
22 years old (11/08/1999)

Phone: +33 (0)7 63 71 54 00
Email: timotelombard@gmail.com
LinkedIn: www.linkedin.com
Website: timotelombard.com

Aerospace engineering student – Advanced Master in space systems at ISAE-SUPAERO (FR)

Work Experience	
2022 (6 months) *France*	**Research scientist intern,** PANEUREKA, Chambéry Supervised by Dr. Luca Montabone o Building a multi-annual database of large-scale regional dust storms on Mars from Column Dust Optical Depth (CDOD) dataset This project comes as a follow-up to my previous internship • Literature and state of the art studies • Use of the CDOD dataset (Montabone et al.) and the Mars Dust Activity Database (Battalio et al.) • Investigation of automatic detection techniques: machine learning, image processing • Participation in the 7th Mars Atmosphere Modelling and Observations workshop at Paris, Poster presentation, discussions with international scientists. • Discovering of potential patterns in CDOD in functions of seasons and regions
2021 (6 months) *France*	**Research scientist intern**, PANEUREKA & Laboratoire de Météorologie Dynamique (LMD), Chambéry & Paris Supervised by Dr. Luca Montabone and directed by the planetology team from the LMD, under the initiative of the Centre National d'Études Spatiales (CNES) and the European Space Agency (ESA) o Study of dust accumulation on and dust removal from solar arrays of landers and rovers on Mars • Literature and state of the art studies • Use of the OpenMARS Database (Open University) and the Martian Climate Database (LMD/CNES/ESA) for a large-scale calculation of convective vortices and surface wind stress in combination with other atmospheric and engineering parameters • Writing of a technical report and oral presentation of obtained results during a progress meeting with members from the LMD, ESA and the CNES. o Validation and statistical analysis of the publicly available multi-annual observations of Martian opacity (only under the supervision of Dr. Luca Montabone) • Verification of the matching between well-resolved dust storms in the daily maps of infrared opacity (derived from single opacity retrievals) and visible images of Mars (taken by orbiting cameras) • Characterization of the climatology and statistics of the dust distribution in space and time, as observed in the opacity maps, and comparison to the climatology and statistics derived from visible images available in the literature

Education

2022 – 2023	**Advanced Master in Space systems engineering, [ISAE-SUPAERO](#),** Toulouse, France
2017 – 2022	**Final year of MSc/Engineering diploma in Aerospace sciences with high honors, [ELISA Aerospace](#)**, Saint-Quentin, France
2017	**High school diploma in sciences with high honors**, [Lycée Vaugelas](#), Chambery, France

Skill

Sciences	Aerospace Sciences: Orbital mechanics, Space propulsion, Launcher design, atmospheric re-entry, Aerodynamics, Thermal control, Space systems architecture, Control, Estimation and filtering, Space environments, AOCS, GNC, Space telecommunications, Space project management, etc. General Sciences: Mathematics, Physics, Materials and Structures, Thermodynamics, Fluid dynamics etc.
Programming	Python, C++, html & css
Software	[Ansys Fluent](#), [MATLAB/Simulink](#), [STK](#), Pack office, [CATIA V5](#), [Systema](#), [OMERE](#)
Languages	French (mother tongue), English (TOEIC: 905/990), Spanish (basics), Chinese (beginner)

Hobbies

Cycling, Rugby, Biathlon, Skiing, movies, music, general knowledge.

Achievement

2022 – 2023	Integrated team project: Design a satellites constellation for meteorologic applications
2022	Bid for tender: Telecommunication network ground infrastructure to support big company's operations across Asia-Pacific
2022	7th MAMO workshop, Poster presentation: Building the long-term, multi-instrument record of large-scale dust events on Mars
2021 – 2022	AOCS/GNC & Flight Dynamics project
2021 – 2022	Creation of a tool to compute supersonic aerodynamic features of a body
2021 – 2022	Space launcher and satellite design
2020 – 2021	Apollo atmospheric re-entry study https://youtu.be/BBLykSpeGYI (MATLAB/Simulink)
2020 – 2021	Study of the Lagrangian points of the {Sun-Earth} system https://youtu.be/jaSeLEuLDIs
2020 – 2021	Orbital simulations: Earth-Moon, Earth-Mars missions; Hohmann transfer; geostationary satellite, mission to Saturn, etc. (STK) https://youtu.be/-QtOQSBTxwg
2019 – 2020	Von Karman's Street simulation and study (Ansys Fluent) https://www.youtube.com/channel/UCD_0IbVrkNZN0S4narnWioQ
2019 – 2020	Study of the behavior of a particle in a unicellular flow (MATLAB/Simulink) https://www.youtube.com/channel/UCD_0IbVrkNZN0S4narnWioQ
2019 – 2020	Computer-aided design of the American space shuttle (CATIA V5)
2019 – 2020	Design, Achievement and launch of a micro space rocket

Outreach

2018 – 2019	Research paper on human and technology challenges for the first manned Martian mission
2016 – 2017	Research review on the potential future of humanity by means of exoplanets