Valerio Pampanoni

Image Data Scientist,
PhD Candidate

About Me

After graduating with honors at La Sapienza University, I joined EOSIAL as a research fellow, working on fire management and satellite image quality assessment. Shortly thereafter, I joined La Sapienza's Energy and Environment PhD programme with the aim of applying computer vision and machine learning to the fire management field. I am a satellite image analyst with strong programming skills, and I have experience on soil erosion monitoring, shoreline mapping and satellite image quality assessment.

Programming

- Python
- Matlab
- C/C++

Software

- GDAL
- qGIS/ArcGIS
- Linux
- Modtran
- STK

Work Experience

2019 - today

Research Fellow — School of Aerospace Engineering

My main research field pertains to using satellite data for fire management, covering all three phases of firefight: prevention, detection and reaction. I am currently involved in the S2IGI, PEDROS and FireEUrisk projects. In the latter I serve as task leader for the "Fire weather and fuel status prevention" activity. During the first part of this period I also worked in conjunction with Serco S.P.A., in the framework of the ESA CQC, on the conceptualization and development of a semi-automated sharpness assessment method for monitoring the quality of satellite images. The following year, the collaboration resulted in the development of a semi-automated method of sub-pixel shoreline mapping for medium and high resolution images.

2018

Thesis Intern — ENEA Casaccia Research Center

As part of my experimental Master's thesis I worked on the re-purposing and calibration of the *F-RAD UV Filter-Radiometer*, which was developed for ozone detection in the Antarctic, to Mediterranean climates.

Education

Postgraduate Training

2019 – today

PhD Candidate in Energy and Environment — La Sapienza

PhD project focused on the application of computer vision and machine learning algorithms to satellite image processing for fire management.

June 2021

InnEO Summer School — InnEO Space PhD Project

Summer school hosted in the context of the InnEO Space PhD project focused on the application of modern machine learning techniques to Earth Observation.

University

2015 – 2018

Masters Degree in Space and Astronautics Engineering — La Sapienza

110/110 *cum laude*

Master Thesis

Application of UV Radiometry and Remote Sensing Techniques to the Measurement of Ozone in the Martian Atmosphere

2012 – 2015

Bachelors Degree in Aerospace Engineering — La Sapienza

110/110

Bachelor Thesis

Manufacturing and Testing of a 1U CubeSat with Magnetic Attitude Control

Scientific Journal Publications

2021

Presenting a Semi-Automatic, Statistically-Based Approach to Assess the Sharpness Level of Optical Images from Natural Targets via the Edge Method. Case Study: The Landsat 8 OLI–L1T Data

Luca Cenci, Valerio Pampanoni, Giovanni Laneve, Carla Santella, Valentina Boccia

MDPI Remote Sensing

2020

The Daily Fire Hazard Index: A Fire Danger Rating Method for Mediterranean Areas

Giovanni Laneve, Valerio Pampanoni, Riyaaz Uddien Shaik

MDPI Remote Sensing

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Languages ————————

🇮🇹 Italian   ● ● ● ● ●
🇬🇧 English   ● ● ● ● ○
🇮🇹 French   ● ● ○ ○ ○
🔴 Japanese   ● ○ ○ ○ ○

Hard Skills ————————

⟨⟩ Programming and Scripting

🔬 Conducting and Publishing Research

👨‍🚀 Space Engineering Masters Degree

Soft Skills ————————

🔍 Critical Thinking

👥 Problem Solving

🏭 Stress Management

🧑‍🤝‍🧑 Team Leading

Conference Presentations

2021	**Evaluating the Potentialities of Copernicus Very High Resolution (VHR) Optical Datasets for Assessing the Shoreline Erosion Hazard in Microtidal Environments**
	Luca Cenci, Valerio Pampanoni, Giovanni Laneve, Carla Santella, Valentina Boccia
	X AIT International Conference
2021	**Presenting the Copernicus Coordinated data Quality Control (CQC) Approach for Sharpness Assessment**
	Luca Cenci, Carla Santella, Valerio Pampanoni, Giovanni Laneve, Valentina Boccia
	Very High-resolution Radar & Optical Data Assessment (VH-RODA) Workshop
2020	**On-orbit Image Sharpness Assessment using the Edge Method: Methodological Improvements for Automatic Edge Identification and Selection from Natural Targets**
	Valerio Pampanoni, Luca Cenci, Giovanni Laneve, Carla Santella, Valentina Boccia
	IEEE International Geoscience and Remote Sensing Symposium
2019	**Support wildfire management in Mediterranean territories using multi-source satellite images**
	Valerio Pampanoni, Giovanni Laneve, Ramon Antonio Bueno Morles, Riyaaz Uddien Shaik
	12th EARSeL Forest Fires SIG Workshop
2019	**Daily fire hazard index for the prevention and management of wildfires in the region of Sardinia**
	Valerio Pampanoni, Riyaaz Uddien Shaik
	XXV International Congress of Aeronautics and Astronautics

Extra-Curricular Activities

Reading	Reading classical and modern literature, philosophy and history
Sports	Crossfit, swimming and futsal
DIY Tech	I stay up to date with the latest consumer technology developments, and I like to build and maintain my hardware around the house.