



» I am a PhD student in Geomatics. My work focuses on photogrammetry and SfM for glacier monitoring. I also work on UAV-photogrammetry for structural health assessment, with a focus on crack detection on concrete bridges. I am a UAV pilot, licensed to operate in critical scenarios.

»»» STATUS

»»» EXPERIENCE

PhD Student

Politecnico di Milano, 2020 - now

» My work focuses on photogrammetry and SfM for glacier monitoring. I work on UAV-photogrammetry for structural health assessment, with a focus on crack detection on concrete bridges.

Visiting PhD student

ITC, University of Twente, 2022

» Developing wide-baseline stereo matching techniques with deep learning for 3d monitoring of an alpine glacier, by using low-cost time-lapse cameras.

Teaching assistant, courses of:

Politecnico di Milano, 2020 - now

- » *Trattamento delle Osservazioni* (Statistics)
- » *Sistemi Informativi Territoriali* (GIS)
- » *Tecniche di rilievo e modellazione 3D per l'architettura* (3D modelling for architecture)

Internship

Politecnico di Milano, LabMGF, 2020

»»» EDUCATION

MSc in Environmental and Land Planning Engineering

Politecnico di Milano, 2017 - 2020

» Major in Land Monitoring and Diagnostics. Grade 110L/110.

Visiting student for MSc thesis development

ETH Zürich, 2019

» MSc Thesis: *Evaluation of Airborne Image Velocimetry approaches with low-cost UAVs in riverine environments*

Erasmus exchange

Aalto University (Helsinki), 2019

BSc in Environmental and Land Planning Engineering

Politecnico di Milano, 2014 - 2017

» BSc Thesis: *Snowpack surveys aimed at hydrological analysis: a case study carried out with UAVs and manual probing measurements on the Belvedere glacier (Macugnaga, Italian Alps)*. Grade 102/110.

»»» PROJECTS

» ICEpy4D: a multi-purpose Python package for 4D Image-based Continuous monitoring of glaciers' Evolution with deep learning SfM and low-cost stereo-cameras

CONTACT

📍 Milano, Italy

Date of Birth: 03/09/1995

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in francesco-ioli

🐙 github.com/franioli

🐦 @francescoioli

🎓 Francesco Ioli

PROGRAMMING

</> Python ★ ★ ★

</> Matlab ★ ★ ★

</> C++ ★ ★ ★

🔗 Git ★ ★ ★

PHOTOGRAMMETRY

🖼 Agisoft Metashape

📷 Photomodeler

☁ CloudCompare
Colmap

TOOLS

📖 QGIS, ESRI ArcGIS

📍 Leica Infinity, rtklib

🖌 Photoshop, Lightroom

🖌 GIMP, Inkscape

📐 AutoCAD, ReCap

📦 Autodesk Fusion360

>_ Terminal

>_ Proxmox VE, TrueNAS

OPERATING SYSTEMS



LANGUAGES

Italian: mother tongue
English: C1 (IELTS certificate)

ACTIVITIES



»»» PUBLICATIONS

- » Ioli, F., Bianchi, A., Cina, A., De Michele, C., Maschio, P., Passoni, D., Pinto, L., 2022. Mid-Term Monitoring of Glacier's Variations with UAVs: The Example of the Belvedere Glacier. *Remote Sensing* 14, 28
- » De Gaetani, C.I., Ioli, F., Pinto, L., 2021. Aerial and UAV Images for Photogrammetric Analysis of Belvedere Glacier Evolution in the Period 1977–2019. *Remote Sensing* 13, 3787.
- » Ioli, F., Pinto, L., and Ferrario, F., 2021. Low-cost Assisted Aerial Triangulation for Sub-decimeter Accuracy with non-RTK UAVs. *Int. Arch. Photogramm. Remote Sens. Spatial Inf. Sci.* XLIII-B2-2021, 25–32
- » Ioli, F., Pinto, L., Passoni, D., Nova, V., Detert, M., 2020. Evaluation of Airborne Image Velocimetry approaches using low-cost UAVs in riverine Environments. *Int. Arch. Photogramm. Remote Sens. Spatial Inf. Sci.* Vol.XLIII-B2-2020, 597–604.
- » For a complete and up-to-date publication list, visit Francesco Ioli Scholar page.

»»» ADDITIONAL INFORMATION

- » Driving license: B
- » UAS license: EASA A2 Open Category, with license for critical standard scenarios
- » Professional qualification: *Esame di Stato* for Civil and Environmental Engineers

»»» VOLUNTEER EXPERIENCE

Scout chief	2017 - now
» Children's educator in the Italian Scout association <i>AGESCI</i>	
Operazione Mato Grosso	2016 - 2017
» Volunteer for charity organization <i>Operazione Mato Grosso</i>	
Libera. Associazioni, Nomi e Numeri contro le mafie	2012 - 2016
» Volunteer for anti-mafia and civil rights association <i>Libera. Associazioni, Nomi e Numeri contro le mafie</i>	

According to Regulation of the European Parliament 679/2016, I hereby express my consent to process and use my data provided in this CV and application for recruiting purposes.