



# FEDERICA GASPARI

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PhD Candidate at Politecnico di Milano (Italy), passionate about **Geographic Information Systems, Remote Sensing** and **Photogrammetric** innovative applications.

## EXPERIENCE

### NOV 2022 – NOW

#### PHD CANDIDATE, POLITECNICO DI MILANO

Research project: Geomatics for a multi-scale integrated approach in support of decision making for bridge monitoring – Environmental and Infrastructure Engineering (XXXVIII Cycle). Development of procedures and an integrated platform for monitoring and rapid mapping of the condition of civil infrastructures and the environment on which they insist using approaches through Geographical Information Systems (GIS), remote sensing, photogrammetry, and deep learning technologies.

Contribution to the [Euthmappers](#) handbook preparation (lesson and exercise sessions) on collaborative web mapping topics, co-founded by the Erasmus+ Programme of the European Union.

Collaboration with the Provinces of Piacenza and Brescia for developing effective web-based 3D geodata management systems.

Visiting PhD Candidate at SUPSI (CH) from March to September 2024

### DEC 2020 – OCT 2022

#### GRADUATE RESEARCH FELLOW, POLITECNICO DI MILANO - [LABMGF](#)

Development and implementation of procedures in GIS environment for the management of geo-referenced information flows. SW used: QGIS, Agisoft Metashape, CloudCompare, Qfield, Potree, PostgreSQL. Support to the monitoring activities of bridges in Piacenza Province and dams in Calabria with topographic, laser scanning and drone surveys.

Teaching tutor for the surveying 2021 Summer School at Belvedere Glacier in Macugnaga (VB).

Contribution to the [CIDMA](#) (Climate Change Induced Disaster Management in Africa) MOOC preparation (video-recordings of lesson and exercise sessions) on collaborative web mapping topics, co-founded by the Erasmus+ Programme of the European Union.

Support to the organisation of the Politecnico di Milano Passion in Action course “[Collaborative and Humanitarian Mapping Course 2021](#)” dedicated to the promotion of FOSS4G and open-culture through laboratory and exercise sessions

### MAR 2021 – NOW

#### TEACHING SUPPORT, POLITECNICO DI MILANO

Teaching assistant for:

- “[Survey and 3D modelling for architecture](#)” with special focus on the use of Agisoft Metashape, CloudCompare, ReCap and AutoCAD for photogrammetric applications and 3D modelling. Preparation of training material. [a.y. 20/21, 21/22]
- “[GIS Applications](#)” dedicated to the basics of QGIS tools linked to vector and raster analysis for architectural application with an introduction to satellite imagery processing. [a.y. 21/22]
- “[Fundamental of GIS development](#)” focused on the use of QGIS and ArcGIS Pro for basic queries and elaborations with vector and raster data in the context of urban planning. Introduction to MySQL. [a.y. 22/23-23/24]
- “[Introduction to GIS](#)”, basics of GIS software for environmental and land planning engineering with QGIS and ArcGIS Pro [a.y. 22/23]

### OCT 2020 – NOW

#### OPENSTREETMAP TEACHER & TUTOR, [WIKIMEDIA ITALIA](#)

"OpenStreetMap: il database geografico collaborativo per la conoscenza del territorio" course focused on the training of secondary school teachers for teaching through webinars and workshops the use of the most common OSM tools. Support to teaching activities and training material preparation for 5 editions.

OpenStreetMap tutor for middle high school in the framework of project founded by [WikiImparare](#) funds by Wikimedia Italia.

OpenStreetMap teacher for the [DIGITARCH 2023](#) summer school organised by Alma Mater Studiorum

**AUG 2020 – OCT 2020**

**GEOSPATIAL DATA QUALITY INTERN, [HUMANITARIAN OPENSTREETMAP TEAM](#)**

Online internship program focused on the use and application of methodologies and instruments to ensure geospatial feature quality on QGIS and OpenStreetMap environment. Support to the COVID response and disaster preparedness activities in Africa and in the Caribbean area.

## EDUCATION

**SEP 2017 – OCT 2020**

**MASTER OF SCIENCE ENVIRONMENTAL AND LAND PLANNING ENGINEERING, POLITECNICO DI MILANO**

From October 2019 to September 2020 – Thesis work: “Geolocated Twitter data as a proxy for the analysis of natural disasters: the Hurricane Florence case study”, social big data analyses in GIS environment (ArcGIS, QGIS, MATLAB, Python). Graduation Mark: 106/110 – [Full text](#)

**JAN 2019 – JUN 2019**

**ERASMUS EXCHANGE PROGRAMME, UNIVERSITE GRENOBLE ALPES**

Genie Civil - Sciences de la terre et des planètes, environnement

**SEP 2014 – SEP 2017**

**BACHELOR OF SCIENCE ENVIRONMENTAL AND LAND PLANNING ENGINEERING, POLITECNICO DI MILANO**

Thesis: "*Social Media Geographic Information: analisi geostatistiche sui dati di Instagram - Il caso di studio di Expo Milano 2015*" social big data analyses in GIS environment (ArcGIS, QGIS). Graduation Mark: 93/110

## SKILLS

### LINGUE

**ITALIAN** Native language

**ENGLISH**

Listening, Reading, Speaking, Writing: Level C1

Certificate: [First Certificate in English](#) (2014)

**FRENCH**

Listening, Reading, Speaking, Writing: Level B2

Certificate: [Français Langue étrangère](#) (2019) – [OLS Assessment](#) (2019)

### COMMUNICATION & ORGANIZATION

Team-work and problem solving attitude; good writing abilities; active listener and confident speaker; learning attitude for new and challenging activities

### DIGITAL

**GIS&CAD ENVIRONMENT**

ArcGIS – QGIS: Proficient User

SAGA-GIS - AutoCAD – ReCap : Intermediate User

**PHOTOGRAMMETRY & REMOTE SENSING**

ENVI – Agisoft Metashape – CloudCompare: Experienced User

**PROGRAMMING AND DATA ANALYSIS**

MATLAB – Python (Numpy, GeoPandas, PyQGIS) – PostGIS – HTML – CSS -

JavaScript: Intermediate User

R - PHP: Basic understanding

**OSM EDITOR & TOOLS**

iD – JOSM – Go Map ! – Mapillary – MapRoulette – OSMCha – OverpassTurbo – Field Papers - [WikiOSM](#): Proficient User

**EDITING, PRESENTATION AND GRAPHICS**

Microsoft Office Suite: Proficient User

Certificate: [ECDL](#) (2012)

Blender – Inkscape: Basic understanding

## ACTIVITIES

### LATEST 5 PUBLICATIONS (RESEARCHGATE)

- **Gaspari, F.**, Ioli, F., Barbieri, F., Bonora, S., Fascia, R., Pinto, L., and Migliaccio, F. (2024) Bridging geomatics theory to real-world applications in alpine surveys through an innovative summer school teaching program, *Int. Arch. Photogramm. Remote Sens. Spatial Inf. Sci.*, XLVIII-4/W12-2024, 59–66, <https://doi.org/10.5194/isprs-archives-XLVIII-4-W12-2024-59-2024>
- Fascia, R., Barbieri, F., **Gaspari, F.**, Ioli, F., Pinto, L. (2024) PONTI: An open WebGL-based tool in support to defect analysis and 3D visualisation of bridges, *Bridge Maintenance, Safety, Management, Digitalization and Sustainability*, 2353-2361, <http://dx.doi.org/10.1201/9781003483755>
- Fascia, R., Barbieri, F., **Gaspari, F.**, Ioli, F., and Pinto, L. (2024), From 3D survey to digital reality of a complex architecture: a digital workflow for cultural heritage promotion, *Int. Arch. Photogramm. Remote Sens. Spatial Inf. Sci.*, XLVIII-2/W4-2024, 205–212, <https://doi.org/10.5194/isprs-archives-XLVIII-2-W4-2024-205-2024>
- Morelli, L., Mazzacca, G., Trybala, P., **Gaspari, F.**, Ioli, F., Ma, Z., Remondino, F., Challis, K., Poad, A., Turner, A., and Mills, J. P. (2024) The Legacy of Sycamore Gap: The Potential of Photogrammetric AI for Reverse Engineering Lost Heritage with Crowdsourced Data, *Int. Arch. Photogramm. Remote Sens. Spatial Inf. Sci.*, XLVIII-2-2024, 281–288, <https://doi.org/10.5194/isprs-archives-XLVIII-2-2024-281-2024>
- **Gaspari, F.**, Barbieri, F., Fascia, R., Ioli, F., Pinto, L. (2024), An Open-Source Web Platform for 3D Documentation and Storytelling of Hidden Cultural Heritage, *Heritage*, 7, 517-536. <https://doi.org/10.3390/heritage7020025>

### GRANTS AND AWARDS

- [FOSS4G EU 2024](#) Tartu travel grant by OSGeo
- [Open Data Day 2024](#) mini-grant by Open Knowledge Foundation for the organization of a webinar for open geodata release and dissemination of glacier monitoring research.
- [ISPRS GeoSpatialWeek 2023](#) Cairo travel grant by ISPRS Foundation
- [Open Data Day 2021](#) mini-grant by Open Knowledge Foundation for PoliMappers webinar dedicated to open and collaborative mapping for humanitarian purposes

### NETWORKS AND MEMBERSHIPS

- *Charter Member* of the [Open Source Geospatial Foundation](#) (OSGeo) since 2022.
- *Faculty Advisor* and *co-founder* of [PoliMappers](#), volunteer students' association based at Politecnico di Milano.
- *Member* of AVIS, Association of volunteered Italian blood donors, since 2013.
- *Active mapper member* of [OpenStreetMap](#) foundation, *Member of the Comms groups* of [State of the Map](#) and [HOT Summit](#) working groups. *Co-founder* of the diversity&inclusion group [cOSMopolIT](#) from the OSM Italian local chapter. Social media committee co-chair for [FOSS4G 2022](#). Member of the local team of [State of the Map 2022 Firenze](#).

### LICENCES

Italian driving licences AM, A1, B, [Prova di completamento della Formazione online UAS Open A1-A3](#) (July 2021) - ENAC

### HOBBIES

Cinema and tv series enthusiast. Piano player. Curious about new and innovative technologies for modern challenges. Swimmer and tennis player.

*In compliance with the GDPR and the Italian Legislative Decree no. 196 dated 30/06/2003, I hereby authorize you to use and process my personal details contained in this document.*