



Gabriele Benedetti

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Date of birth: 28/01/1999 Nationality: Italian

WORK EXPERIENCE

[23/02/2023 – Current]

University research assistant

University of Milano-Bicocca

City: Milan

Country: Italy

Development of python codes to help analyze fractured rock systems and create stochastic DFNs in a tightly knit cooperative environment. Main research interest:

1. Right censoring bias correction for fracture length parameter estimation
2. Point cloud segmentation procedures for fracture planes extractions
3. Stochastic DFN parameter calibration

[05/02/2022 – 10/02/2023]

Programmer

PRO ITER Ambiente s.r.l.

City: Milan

Country: Italy

- Created new tools and functions for the PZero 3D geological modelling software to streamline the output of geological models for CAD/BIM environments.
- Involved in non academic geological applications by working with a team of experts in civil and environmental engineering.

[01/11/2019 – 01/12/2019]

Programmer

Freelance

City: Milan

Country: Italy

Hired to define a pipeline and write python scripts to help calculate the difference between two distinct 2.5D models of artificial slopes before and after a given event directly in Agisoft Metashape.

EDUCATION AND TRAINING

[05/10/2020 – 05/10/2022]

MSc Geology and Geodynamics

University of Milano-Bicocca <https://www.unimib.it/>

City: Milan

Country: Italy

Field(s) of study: Natural sciences, mathematics and statistics: *Earth sciences*

Final grade: 110/110 Cum laude

Type of credits: ECTS Number of credits: 122

Thesis: New tools for Digital Outcrop Models analysis: Implementation for the PZero software
The Masters degree in Geology and Geodynamics establishes a basis to analyze and understand deep geological processes at the local and regional scale using both surface and subsurface data.

- Strengthened core geology concepts by following numerical and data driven courses such as applied geophysics, 3D geo-modelling and GIS/remote sensing.
- Developed an open source 3D modelling geological software written entirely in Python as Master thesis.

[02/10/2017 – 02/10/2020]

BSc Geological Sciences and Geo-technologies

University of Milano-Bicocca <https://www.unimib.it/>

City: Milan

Country: Italy

Field(s) of study: Natural sciences, mathematics and statistics: *Earth sciences*

Final grade: 107/110

Type of credits: ECTS **Number of credits:** 180

Thesis: Photogrammetric techniques applied to invertebrate paleontology

The Bachelors degree in Geological Sciences and Geo-technologies has the aim to lay a solid methodological background in all fundamental disciplines of the Earth Sciences.

- Sparked an interest for modern approaches, such as 3D modelling and coding by having hands on experience with different 3D manipulation software and subjects.

PROJECTS AND PUBLICATIONS

Point cloud analysis and segmentation procedures in the PZero software

EGU 2023 Master thesis poster presentation.

Benedetti, G., Casiraghi, S., Bistacchi, A., Arienti, G., and Bertolo, D.: Point cloud analysis and segmentation procedures in the PZero software, EGU General Assembly 2023, Vienna, Austria, 24–28 Apr 2023, EGU23-9549, <https://doi.org/10.5194/egusphere-egu23-9549>, 2023.

Link: <https://meetingorganizer.copernicus.org/EGU23/EGU23-9549.html>

GPR 3D visualization

New visualization methods for Ground Penetrating Radar data using Pyvista/VTK python libraries.

Link: <https://gabri.xyz/projects/gpr/>

PZero

Free and opensource 3D geomodelling platform written entirely in Python.

Link: <https://github.com/andrea-bistacchi/PZero>

LandPy

LandXML parsing library for python. Developed during my short stay in PRO ITER Ambiente s.r.l.

Link: <https://github.com/gbene/LandPy>

LANGUAGE SKILLS

Mother tongue(s): Italian

Other language(s):

English

LISTENING C2 **READING** C2 **WRITING** C1

SPOKEN PRODUCTION C1 **SPOKEN INTERACTION** C1

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

DIGITAL SKILLS

Programming Languages

Python (Advanced) | MATLAB (Good) | JuliaLang (Basic) | C++ (Basic) | JavaScript (Basic)

Software

Agisoft Metashape | Geographical Information Systems (GIS) | 3D Geological modelling (SKUA, Petrel, MOVE) | Blender | KiCAD, FreeCAD

Technologies

Linux | Git | LaTeX | PyCharm

HOBBIES AND INTERESTS

Gardening

Photography

Hiking

Music