Giacomo Nodjoumi

Planetary Geologist Developer

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🔗 http://gnodjoumi.space/   📍 Bremen, Germany

EXPERIENCE

Remote Sensing Geologist

NHAZCA S.r.l   10/2018 - 01/2019   Rome, Italy

Company Description

- Beta-testing activities of proprietary software for the processing of data acquired through TInSAR technique and semi-automatic tools for data post-processing.
- Photointerpretation and displacement analysis using satellite optical (Pleiades, Sentinel-2, Aster, Landsat) and SAR (Sentinal-1, COSMOSkyMed) data and terrestrial optical and GBSAR data.
- Realization of multiple 3D point clouds using photogrammetry technique using airborne and terrestrial images for 3D modeling and for change detection analysis.

Field Geologist

Self Employed   04/2014 - 05/2018   Italy

Company Description

- Gravimetric and Microgravimetric survey using LaCoste & Romberg gravimeter.
- Magnetometric surveys using the Profiler EMP400.
- Geoelectrical profiling surveys up to AB-1000.
- Seismic surveys (MASW, Down-Hole, TROMINO

ESA Analog 1 - MIRACLES 2022

Jacobs University Bremen   06/2022 - 06/2022   Mt. Etna, Sicily, Italy

Company Description

- Part of the geologists team who prepared and supported the sample collection of the Interact rover field operations.

PROJECTS

Detecting and mapping Pit/Skylights, and Lava Tubes through Deep Learning applied on planetary images.

02/2020 - Present   Bremen, Germany

(02/2020 – Present)

- Development of new pipelines and tools for landform detection through Deep Learning.
- Focus on Pit/Skylight automated detection on Mars and the Moon.
- Release of DeepLandforms toolset.

2D and 3D analysis of Subsurface Sounding Radar data for mesh reconstruction.

08/2020 - Present   Location

Short summary of your work

- Development of new pipelines for subsurface sounding radar data 2D and 3D analysis, including mesh generation and advanced visualization.
- Release of new open-source tool in 2023 with advanced 2D and 3D capabilities
- Conversion of MARSIS (MEX) Matlab code to Python for reading and converting data.
- Integration of MARSIS data into MATISSE database.

EXPLORE (H2020) project - Co-leading the development of the lunar scientific data applications L-HEX and L-EXPLO

11/2020 - Present   Bremen, Germany

https://explore-platform.eu/

- Development of new Scientific Data Applications for Lunar data exploitation.
- Development of the Backend-Frontend infrastructure based on open-source components (Geoserver, FastApi, TerriaJS).

LANGUAGES

Italian — Native ●●●●●

English — Proficient ●●●●○

SKILLS

Linux   Docker   JupyterLab/Ecosystem

Python   FastAPI   Pytorch   GeoPandas

Plotly   Open3D

Geoserver   TerriaJS   ENVI   QGIS

ArcGIS

Deep Learning   Computer Vision

Remote Sensing   GIS

Creativity   Problem Solving   Adaptability

Teamwork   Critical thinking

EDUCATION

Phd Student

Constructor University Bremen

2020 - Present

Master of Science

Sapienza - University of Rome

09/2018   Location

- Thesis: Developement and calibration of a multispectral multi-camera system for monitoring digital image correlation technique.

Bachelor of Science

Sapienza - University of Rome

03/2014

- Thesis: Gravimetric profile and depth of the carbonate bedrock near Cotarda (Pontinia, Latina).