Zhihao LIU

Nationality: Chinese   **Date of birth:** 26/03/1993

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WORK EXPERIENCE

Research Assistant on Geomatics
UiO [12/2021 – Current]

- Geostatistics and Geospatial **Modeling** with Python. My modeling toolbox includes xDEM (co-registration), SciPy (optimizing, interpolation), Rasterio, Shapely, Geopandas, Multiprocessing, PCA, and Machine learning (XGBoost regression), etc.
- Work on **Dataset** from the Field trip (LiDAR Drone), remote sensing and/or open access: ICESat-2, MODIS, Norway National DTM 1/10, Global DEM (Copernicus, Arctic DEM, etc.)
- **GIS tools**: ArcGIS, QGIS, and automating GIS scripts.

Field Technician / Geomatics Professional
BGP OFFSHORE, CNPC [07/2014 – 06/2021]

- More than twelve 3D/4D/OBN **Offshore Seismic Surveys** as a navigator and technician globally (Norway, UK, West Africa)
- Coding for Seismic: optimized workflows by data-driving solutions.
- Patents and conference publications.
- Register of Licensed Surveyors of P.R.C.
- Get promoted to Assistant Party Chief.
- Worked with a world-class seismic team in a multicultural environment & QHSE culture.

EDUCATION AND TRAINING

Master in Geoscience
Universitetet i Oslo [08/2021 – Current]

Address: Oslo (Norway)

Curriculum (Result A&B**): Advanced Remote Sensing and Topographic Analysis** | IPCC AR6 Seminar | Floods, Avalanches and Landslides | **Surveying, Photogrammetry and Spatial Analysis** | **Geophysical Data Science** | Glacial and Periglacial Geomorphology
Thesis: Benchmarking DEM Precision: Workflows and Applications on Snow Depth.
Reports:
- Change Detection on Agriculture: a case study of the Western Nile Delta in Egypt
- Validating and Mapping Lake Surface Temperature from MODIS: a case study of Lakes in Sweden
- How to bury Longyearbyen by an avalanche: mass movement modeling
- Oslo Housing Price MCDA Model: a perspective from spatial contributions
- What if the ice block expedition 1959 happens in 2021? You can not blame it on climate change
- Field Trip to Ice Age Museum: Quaternary Geomorphology Story of Norway

Field(s) of study
- Geomorphology and Geomatics

Bachelor in Geodesy and Geomatics
South West Petroleum University [08/2010 – 07/2014]

Address: Chengdu (China)

- With a background in Engineering, Cartography, GNSS and GIS.
- A for bachelor's thesis (A WebGIS system for urban infrastructure management).

LANGUAGE SKILLS

Mother tongue(s): **Chinese**

Other language(s): **English (Professional working proficiency)** | **Norwegian (beginner)**

DIGITAL SKILLS

Automating GIS / Data-driving Solution / Data QC & Processing / QGIS / Numerical Modeling / ArcGIS / Python

HOBBIES AND INTERESTS

Marathon

- Not bad runner with 130 (half-marathon) and 330 (marathon) of the personal best.
- Have organized medium size marathon (15K) and was in charge of supply and volunteers.

OSI Friluft

- Board member and tour leader of OSI Friluft.

PROJECTS

North Sea Quad 35 Hybrid 3D seismic survey

[07/2020 – 10/2020]

Quad 35 is the first hybrid seismic combined streamers and nodes for commercial purposes. I worked as a technician for contract technical review, onboard acquisition, data QC & reprocessing, and follow-up work. I was the person who dug deepest into the data quality of Q35. And I got the best commendation from the client for modeling this novel acquisition to make it more efficient and understandable.

Essaouira side-scan sonar survey, Offshore Morocco

[04/2017 – 04/2017]

I was in charge of and conducted a side-scan sonar pre-survey for seismic projects. The main point was identifying the possible shallow hazards for the seismic streamers: reefs, shipwrecks, and pipelines. I am also familiar with offshore magnetic and gravity surveys that we do simultaneously during seismic acquisition.

SNOWDEPTH – Global snow depths from spaceborne remote sensing for permafrost, high-elevation precipitation, and climate reanalysis

[01/2022 – Current]

This research is key to understanding the snow-depth-related climate mechanism or application, e.g. permafrost, high-mountain precipitation, hydropower...As a research assistant, I joined the field (drone) trip and work on the ICESat-2 dataset and a variety of DEM products; thus far, I am able to generate snow depth measurements for entire Norway. Later, I am trying to interpolate and feed the data into the climate/hydrological models and contribute to the open source community of the cryosphere.

REFERENCES

2016 - 2021:

Chief geophysicist of BGP Prospector, Bo Wen, Email: wenbo01@cnpc.com.cn, Mobile: +86 18622259275

2021 - Present

Project Leader and Co-supervisor, Désirée Treichler, Email: desiree.treichler@geo.uio.no, Mobile: +47 22857869

2021 - Present

Professor and Supervisor, Andreas Max Kääb, Email: a.m.kaab@geo.uio.no, Mobile: +47 22855812