CEN Yiyi

Email: yiyi.cen@outlook.com **GitHub:** yiyilv

EDUCATION

Politecnico di Milano *Sep.2024-Present*

MSc Geoinformatics Engineering, Computer Science Track

- **Weighted Average:** 26/30 **Credits Earned:** 95 CFU
- Selected Coursework: Geoinformatics Project (30/30), Earth Observation (29/30), Geospatial Processing (28/30), Artificial Intelligence for the Earth: Geospatial Foundation Models (Pass)

Nanjing University of Information Science and Technology (China, Double Degree) *Sep.2020-Jun.2024*

Bachelor of Science in Geographic Information Science (Joint Program with University of Reading)

- **Average Score:** 86.6 **FIRST-CLASS HONOURS**

SELECTED RESEARCH & PROJECTS

Unsupervised Urban Thermal Environments — ESA Earth Observation Workshop *Sep. 2026*

- Analyzed multi-source Earth Observation and urban morphology data to identify urban environmental patterns using unsupervised learning.
- Applied PCA and clustering to vegetation, imperviousness, building morphology and related geospatial features, with land-cover and thermal data used for interpretation and validation.

Fine-Tuning Prithvi-EO for Land-Cover Classification *Sep.2025-Dec. 2025*

Course Project — Artificial Intelligence for the Earth: Geospatial Foundation Models, Politecnico di Milano

- Fine-tuned Prithvi-EO v2-300-TL for image-level land-cover classification using Sentinel-2 imagery and LUCAS labels under limited supervision.
- Developed a custom CLS-based classification head and systematically evaluated partial Transformer fine-tuning strategies and training-data availability.
- Improved Macro-F1 from 0.22 with a frozen backbone to 0.59 through partial Transformer fine-tuning.

StormEngine-DL: A Data-Driven Nowcasting System for the Adriatic Region *Apr. 2026 – Aug. 2026*

Course Project — Geoinformatics Project

- Developed a deep-learning framework for spatiotemporal weather nowcasting using ERA5 meteorological data.
- Implemented a SetConv–ConvGRU architecture in PyTorch for multi-variable forecasting over the Adriatic region.
- Evaluated the model against spatial interpolation baselines and operational observation data.

Poyang Lake DEM Reconstruction and Multi-Source Data Fusion *2025-2026*

- Integrated GF-7 stereo imagery, ICESat-2 elevation measurements and auxiliary DEM data for lake-region terrain reconstruction and elevation correction.
- Investigated DEM alignment, vertical-datum consistency and spatial fusion across land and shallow/deep-water zones.

PUBLICATIONS

Cen, Y., Jia, W., Dai, W., Wang, C., & Wu, H. (2024).
Analysis of Color Landscape Characteristics in "Beautiful Village" of China Based on 3D Real Scene Models. **Revue Internationale de Géomatique, 33**, 93–109. DOI: 10.32604/rig.2024.050273

Wu, H., Dai, W., Wang, C., **Cen, Y.,** Jia, W., Tao, Y., & Fan, M. (2024).
*Estimating scenic beauty in Chinese villages: a novel approach based on 3D real scene models***. Journal of Spatial Information Science, 29.** *DOI: 10.5311/JOSIS.2024.29.363*

TECHNICAL SKILLS

Programming & ML: Python, PyTorch, PyTorch Lightning, scikit-learn, SQL

Deep Learning: CNNs, RNN/ConvGRU, Transformers, transfer learning, model fine-tuning

GeoAI & EO: Sentinel-2, ERA5, Earth Observation, Remote Sensing, raster/vector processing

GIS & Geospatial: QGIS, ArcGIS Pro, DEM processing, point-cloud processing