

Hi-Target

GEO-SPATIAL
Information Science



2025 Wuhan University LuoJia Global Summer School 2025 International GeoInformatics Summer School

SSI: Artificial Intelligence and Machine Learning

Instructors: Prof. Dr. Marcello Pelillo,

Ca'Foscari University of Venice, Italy

Wuhan University

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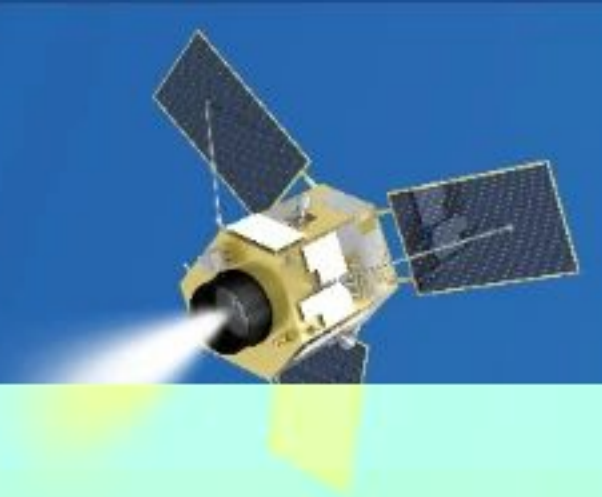
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Artificial Intelligence and Machine Learning

Instructor: Prof. Dr. Marcello Pelillo, Ca' Foscari University of Venice, Italy



Marcello Pelillo is a Professor at Ca' Foscari University of Venice, where he leads the Computer Vision and Machine Learning Lab. He has been the Director of the European Centre for Living Technology (ECLT). He is an external affiliate of the Computer Science Department at Drexel University (USA) and of the Italian Institute of Technology. He has published more than 200 technical papers in refereed journals, handbooks, and conference proceedings. He has been General Chair for ICCV 2017, Program Chair for ICPR 2020. He is the Chief Editor of Frontiers in Computer Science – Computer Vision. He is also a Fellow of the IEEE, the IAPR, and the AAIA, and is an IEEE SMC Distinguished Lecturer.

Research Fields: Computer vision, machine learning and pattern recognition



Lectures #	TOPICS
Lecture 1	Introduction to AI and machine learning
Lecture 2	Neural networks and deep learning
Lecture 3	Neural networks and deep learning
Lecture 4	Clustering
Lecture 5	Selected computer vision applications
Lecture 6	Selected computer vision applications
Lecture 7	Group Project Presentations



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Introduction to AI-guided SAR Data Science

Instructor: Prof. Dr.-Ing. Timo Balz, Wuhan University, China



Timo Balz received his Diploma degree (Dipl.-Geodät.) in aerospace engineering and geodesy from the University Stuttgart, Stuttgart, in 2001 and 2007, respectively. Since 2015 he is Full Professor with LIESMARS. Since 2021, he is Vice-Director of the International Academy of Geoinformation, Wuhan University. He serves as Associate Editor for the IEEE Geoscience and Remote Sensing Magazine and MDPI's Remote Sensing. He is a member of the editorial board of Geo-Spatial Information Science and the Journal of Digital Earth. Since 2016, he has been Chair of an ISPRS Commission I Working Group on SAR from 2016–2022 and again from 2022–2026. He has authored and co-authored more than 150 scientific articles in journals, books, and conference proceedings.

Research Fields: Surface motion estimation with SAR, data visualization, SAR geodesy, and the use of SAR data to support archaeological prospections.

Lectures #	TOPICS
Lecture 1	Introduction to Synthetic Aperture Radar (SAR), Large Language Models (LLM), and Python
Lecture 2	SAR image processing with assistance from DeepSeek
Lecture 3	AI-Powered SAR Image Classification
Lecture 4	SAR Interferometry: Theory and code examples from scratch
Lecture 5	Developing Permanent Scatterer Interferometry from scratch
Lecture 6	Data analysis, visualization, and understanding
Lecture 7	Group Project Presentations