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Ph.D. Program in Electronics, Computer Science and Electrical Engineering

SEMINAR ANNOUNCEMENT

Title: Unveiling the Earth's Surface: Deep Learning for Precise Land Use / Land Cover Maps Updating

Prof. Shyam Lal

National Institute of Technology Karnataka, Surathkal, Mangalore, India

Thursday, 9th May 2024, 2:15 pm (CET)

streamed in Magenta Seminar Room

Dept. of Electrical, Computer and Biomedical Eng., University of Pavia – Via Ferrata, 5 – Pavia

Abstract: Land use and land cover (LULC) maps, created from satellite imagery, have become a vital tool for understanding our planet. They provide a detailed picture of the Earth's surface, revealing forests, fields, cities, and everything in between. This information is crucial for environmental monitoring, urban planning, and managing our precious resources. For years, scientists have relied on various techniques to classify LULC from satellite data. However, as the complexity of land cover types increases, traditional methods struggle to differentiate between them. This is where deep learning applied to segmentation and segment classification steps in as a game-changer. This seminar will delve into the world of deep learning for segmentation and classification of satellite data, exploring the advanced algorithms that are revolutionizing land cover mapping. We will uncover the concepts behind this technology and showcase its applications in creating accurate and up to date LULC maps. Finally, we will explore exciting future directions in deep learning research, paving the way for even more precise and real-time insights into our ever-changing planet.

Bio: **Shyam Lal** received a Ph.D. in Digital Image Processing from the Dept. of Electronics & Communication Engineering, Birla Institute of Technology, Mesra, Ranchi (Jharkhand), India in year 2013. He is currently Associate Professor in the Dept. of Electronics & Communication Engineering, NITK, Surathkal, Mangalore (Karnataka), India. He has more than 20 years of teaching and research experience, which included supervising several PhD students and taking part to different research projects in the field of spaceborne Earth observation. He has published around 100 research papers on journals and conferences both national and international, and received many research awards from the Govt. of India. Dr. Lal also filed 1 Indian patent, which is in *published* status. He held the Vice-chair position, IEEE Geoscience and Remote Sensing Society (GRSS), Bangalore Chapter, from Jan. 2021 to Dec. 2023; he is currently Chair of IEEE GRSS Bangalore Chapter since Jan. 2024. He delivered more than 100 invited technical talk and expert lectures. His areas of interest include Quantum Computing algorithms with applications, Artificial Intelligence (AI), and Optimization Algorithms with application in Remote Sensing.

Organizer

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