GEOAI: Opportunities and Challenges
Monday, 31 July 2023
15:00 - 16:15pm
Conference Room A (Conference bldg.)
United Nations Headquarters, New York

CONCEPT NOTE

Background

GEO (Geomatics and Earth Observation) AI pertains to utilizing Artificial Intelligence (AI) techniques, like deep learning and machine learning, for processing and analyzing geospatial information. This enables us to better comprehend the physical world and our interactions with it at different scales, from individual to global. Geospatial data encompasses any data associated with a specific location on Earth, including data from UAVs, satellites, and sensors, maps, GPS tracks, socioeconomic data, transaction data, and textual references to locations. AI can help extract insights and identify patterns in geospatial data that conventional methods may not be able to uncover.

As experts in geospatial analysis, we can contribute in two ways. In geodata-driven AI, machine learning models are trained on extensive datasets of geospatial data to uncover patterns and relationships. Our expertise in geospatial data is crucial in guiding the process of locating, sampling, collecting, cleaning, and validating geospatial data. This helps prevent the occurrence of the "garbage in, garbage out" phenomenon. In model-driven AI, explicit problem domain models are developed based on a profound understanding of the underlying principles and relationships. These models typically rely on mathematical or physical equations derived from various discipline-specific domains in geomatics. These models need to be enriched with AI techniques and models while incorporating perspectives from interdisciplinary fields.

AI has now become commonplace in data processing, and therefore, we urgently need to discuss the advantages of this new approach and the threats it poses. This side event aims to provide a forum to facilitate such discussions, supported by the results of three surveys. The first two surveys were conducted by the UN-GGIM Academic Network, one targeting universities and the other aimed at Member States. The third survey was administered to the UN-GGIM Private Sector Network members and was organized by this Network.

The UN-GGIM Academic Network and the UN-GGIM Private Sector Network are jointly organizing this side event.

This is an open event, and all delegates and observers are invited

Objectives and expected outcomes

The side event aims at the following objectives:

- To present and discuss the results of the surveys about GEOAI;
- To discuss the opportunities and challenges related to GEOAI;
- To explore the role of academics in promoting the education and usage of GEOAI; and
- To discuss the needs and opportunities of the private sector in promoting the education and usage of GEOAI.

Provisional agenda

15:00-15:10	Welcome and introduction	Prof. Songnian Li, Deputy Chair, UN-GGIM AN Dr. Zaffar Mohamed-Ghouse, Chair, UN-GGIM PSN
15:10-15:35	Outcome of the two surveys: ● to UN-GGIM AN members and other universities ● to UN-GGIM members	Prof. Maria A Brovelli, Chair, UN-GGIM AN
15:35-15:45	Outcome of the survey to the private sector	Dr. Lokendra Chauhan, UN-GGIM PSN
15:45-16:55	Panel discussion Moderator: Dr Zaffar Mohamed-Ghouse, Chair, UN-GGIM PSN	
	Esteemed Panel Members	
	● Dr. Ingrid Vanden Berghe (Co-Chair UN-GGIM) ● Mr. Erzen Ilijazi (UN-GGIM Secretariat) ● Dr. Alexander Caldas (UN Geospatial Network) ● Prof. Celine Rozenblat (UN-GGIM Geospatial Societies) ● Dr. Andrea Manara, ITU – AI For Good	● Prof. Saeid Pirasteh (UN-GGIM AN) ● Prof. Abbas Rajabifard (UN-GGIM AN) ● Prof. Michael Starek (UN-GGIM AN) ● Ms. Valrie Grant (UN-GGIM PSN) ● Mr. Peter ter Haar (UN-GGIM PSN)
16:55-17:00	Wrapping up	Prof. Maria A Brovelli, Chair, UN-GGIM AN

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