Iceland
Liechtenstein
Norway grants

Norway grants

Real world scene → Hyperspectral image acquisition → Pre-processing → Features extraction → Analysis & Decisions

blur: atmosphere, light, CT, ...

super-resolution, atmospheric correction, ...

self-supervision, auto-encoders, ...

detection, segmentation classification, ...

Efficient Learning and Optimization Tools for Hyperspectral Imaging Systems (EloHyp)

Principal Investigator: Ion Necoara
Project Promoter: University Politehnica Bucharest, Romania
Project Partners: Norwegian University of Science and Technology, University of Bucharest, Coltea Hospital

SCAN ME

Hyperspectral imaging collects and processes information from the electromagnetic spectrum using a subset of targeted wavelengths at chosen location that span beyond the usual RGB spectrum. Hyperspectral data are becoming a valuable tool for monitoring the Earth's surface or human body and are used in a wide array of applications: agriculture, health, environment, mineralogy, surveillance, physics, astronomy and chemical imaging.

The project has the following strategic objectives:
- To create the next generation of learning and optimization technologies for hyperspectral imaging systems.
- To enable the pervasive use of these technologies in hyperspectral imaging systems and demonstrating its impact in key application areas.
- To create value and exploitable outcomes by delivering results of high technology readiness level.

The research is oriented towards the environment and health sectors, in which there is a real need for AI and Big Data technologies.

The experiments will include specific tests to answer the needs of our collaborators in the ocean monitoring and medical imaging. These new technologies will make our world a safer and a healthier place. They will help us better explore our world so that we could make intelligent, well-informed decisions on time. Furthermore, our methods will also contribute in helping doctors take reliable and informed decision in cancer diagnostics and treatment, thus improving the quality of life in Romania, Norway and other places.

Working together for a green, competitive and inclusive Europe