

MSc thesis – Advanced algorithms and remote sensing for tillage practices monitoring.

About UM6P

University Mohammed VI Polytechnic is an institution dedicated to research and innovation in Africa and aims to position itself among world-renowned universities in its fields. The University is engaged in economic and human development and puts research and innovation at the forefront of African development. A mechanism that enables it to consolidate Morocco's frontline position in these fields, in a unique partnership-based approach and boosting skills training relevant for the future of Africa. Located in the municipality of Benguerir, in the very heart of the Green City, Mohammed VI Polytechnic University aspires to leave its mark nationally, continentally, and globally.



About CRSA

Center for Remote Sensing Application (CRSA) is a transversal structure across several UM6P Programs. Research within CRSA is organized around several major areas that aim to ensure the challenging Food and Water security goal in Africa, with a special focus on developing methods/tools that use multi-source remotely sensed data. The research aims to improve our understanding of the integrated functioning of continental surfaces and their interaction with climate and humans, with emphasis on sustainable management of natural resources (soil, land, water, agriculture) in the context of Climate Change. One of center's goals is to provide a set of services and operational products to users (local, national and international) that aid in the decision support of water and food systems.

Job description

Sustainable soil management practices are challenging to monitor at scale. The current project aims to monitor key farming practices using satellite imagery and advanced algorithms to understand the spatiotemporal adoption dynamic for the best management practices.

Key responsibilities

- Process satellite imagery time series in modelling frameworks.
- Process large datasets in Python and JavaScript frameworks to access soil surface properties.
- Train and cross validate new models for surface properties assessment.
- Understand spatiotemporal dynamics of key management practices.

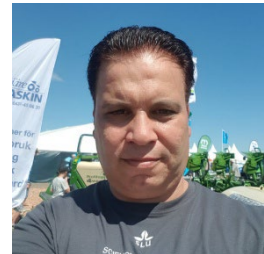
Experience and Qualifications

- Bachelor in Remote Sensing, Environmental Science, Agronomy, or a related field.
- Current enrolment in master's degree in mandatory.
- Experience in Soil sciences (e.g., physics, chemistry, pedology).
- Demonstrated experience in digital soil mapping and remote sensing.
- Programming (e.g., Python, R) and GIS tools (e.g., QGIS) experience.
- Excellent communication skills.

Supervisors:

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