RIM SLEIMI

Earth Observation & Machine Learning Engineer

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EXPERIENCE

Remote Sensing and GIS Junior Expert

Sahara and Sahel Observatory (OSS)

September 2022 – Ongoing | Tunis, Tunisia

Used GEE for:

- Developing GUIs for vegetation gain and loss, generating labels for LULC, and reclassifying unsupervised LULC maps.
- SDG 15.3.1 reporting based on the UNCCD good practice guidance-V2 for all African countries;
- Phenology-based land cover classification;
- Forest fire assessment;

Machine Learning | Remote Sensing Research Intern

International Water Management Institute (IWMI)

February 2022 – Ongoing | Remote

- Conducted literature review regarding drought and Flood monitoring.
- Developed a scalable method for drought monitoring using satellite remote sensing Data and PCA.
- Developed a pipeline to create an off-the-shelf model for timely flood mapping using open-source labeled Sentinel-1 data.
- Developed a web app that enables the end users to query Sentinel-1 data and generate flood masks.

Remote Sensing | Machine Learning intern

Sahara and Sahel Observatory (OSS)

March 2020 – November 2020 | Tunis, Tunisia

Graduation thesis: Remote Sensing Approach for Water Balance Establishment in Irrigated Areas:

- Processed Sentinel 2 L2A and Landsat 8 remote sensing imagery.
- Conducted a comparative analysis of a multitude of classification models and Sentinel-2 band combinations/indices for crop type identification in Bizerte.
- Estimated evapotranspiration using the FAO-56 method and the SEBAL model.

GIS & Remote Sensing intern

Sahara and Sahel Observatory (OSS)

July 2019 – August 2019 | Tunis, Tunisia

Mapping and Inventory of protected areas:

- Developed maps of protected areas, as well as maps of protected areas and land use, in 28 African countries, according to the IUCN categories using ArcGIS.
- Writing reports.

ABOUT ME

Enthusiastic and motivated, always seeking to learn and improve myself. I started as a Geosciences Engineer and found a passion for machine learning, earth observations, and spatial data analysis along the way.

MOST PROUD OF

Ranked the first on a national level
Ranked the first, on a national level, in the admission to engineering school's exams, and I was awarded by the minister of agriculture.

Erasmus ICM Programme
I was granted an Erasmus scholarship to study at Uppsala University-Sweden for one year

TECHNICAL SKILLS

Python | Java Script | MATLAB | SQL | Machine Learning | Deep Learning | Computer Vision | VSCode | Pytorch | GitHub | Git | Streamlit | MLflow | FastAPI | Docker

ArcGIS | QGIS | SNAP | Surfer 11 | GoogleEarthPro | Google Earth Engine | Microsoft Office | Latex

LANGUAGES

Arabic
English
French
Korean

EDUCATION

Erasmus Student Exchange Programme

Uppsala University (UU)

Jan 2021 – Jan 2022 | Sweden

Semester 1:

- Natural Computation Methods for Machine Learning (1DL073)
- Inversion Geophysics (1GE016)

RELEVANT PROJECTS

Buildings Detection

2022

This project studied building footprint detection in satellite imagery, a baseline need for many organizations that can enable many types of analyses. The goal is to develop a neural network-based solution to detect buildings in the images provided to accelerate mapping. The analysis is based on a curated subset of the SpaceNet7 dataset.

Rim-chan/SpaceNet7-Buildings-Detection

Deep Leaning | Python | Pytorch

Cloud Detection and Segmentation using Deep Learning

Uppsala University

2021

- Conducted a brief literature review of the current advances in computer vision regarding image segmentation;
- Investigated the reliability of transfer Learning for the task of semantic segmentation of clouds in satellite imagery;
- Implemented and compared several deep learning models (Unet, Unet++, Efficient-Net, Unet with a ResNet backbone, VGG16, and ResNet) for cloud segmentation in satellite imagery using Pytorch.

Rim-chan/Cloud-Segmentation-Using-DL

Deep Leaning | Sentinel-2 | Python | Pytorch

Do women talk too much in films

Uppsala University

2021

Predicting the lead actor in a Hollywood film, which can be male or female:

- Conducted Exploratory Data Analysis and Feature Engineering.
- Trained, evaluated, and tested a plethora of machine Learning classifiers;
- Hyperparameter tuning.

Rim-chan/Do-wo-men-talk-too-much-in-films-

Machine Learning | Python

Geothermal Mapping in the Eastern and Western branches of the East African Rift Valley

Uppsala University

2021

- Created cartographic and data visualization products: Mineral, Vegetation, Surface Temperature, and Heat flux mapping;
- Compared and cross-validated products from Landsat 8 and ASTER thermal data;
- Identified potential geothermal reservoirs.

ArcGIS | Sentinel-2 | Landsat-8 | ASTER

- Seismology (1GE058)

Semester 2:

- Statistical Machine Learning (1RT700)
- Algorithms and Data Structures I (1DL210)
- DataBase Design I (1DL301)
- Presentation and Publication (1GV006)
- Applied Geoinformatics for Earth Sciences (1GE039)
- Times Series Analysis of Geophysical Data (1GE049)

Joint Master Degree in Computer sciences: Computer Vision and Machine Learning Specialization

National Engineering School of Tunis (ENIT) & Université de Paris Descartes (UPD)

Sep 2019 – Dec 2020 Tunis

Korean Language

Higher School of commerce-Manouba University (ESSECT)

Sep 2018 – Jul 2019 Manouba

Geosciences Engineering studies

Faculty of sciences Tunis el Manar (FST)

Sep 2017 – Dec 2020 Tunis

Preparatory studies in biology and geology

Higher Institute of Preparatory Studies in Biology-Geology (ISEP BG Soukra) & Higher Institute of Applied Sciences and Technology of Gabés (ISSAT Gabes)

Sep 2015 – Jul 2017 Tunis