



I the undersigned ask to participate in the public selection, for qualifications and examinations, for the awarding of a type B fellowship at **Dipartimento di Scienze Agrarie e Ambientali**

Scientist- in - charge: **Professor Oberti Roberto**

Amirali DAVARY

CURRICULUM VITAE

PERSONAL INFORMATION

Surname	DAVARY
Name	Amirali

PRESENT OCCUPATION

Appointment	Structure
Student	MSc. program in Data Science and Economics, Università degli Studi di Milano - Second year [class of 2021]

EDUCATION AND TRAINING

Degree	Course of studies	University	year of achievement
Bachelor of Science	Agriculture Engineering - Water	Ferdowsi University of Mashhad	2016
Master of Science	Civil Engineering - Water and Hydraulic Structures	IAU Azad University of Mashhad	2021
Master of Science	Data Science and Economics	Università degli Studi di Milano	Expected 2023
Certificate for Course of Study	Programming for Geospatial Hydrological Applications	IHE Delft and UNESCO	2021

FOREIGN LANGUAGES

Languages	level of knowledge
English	C1 (TOEFL Score: 96)
Italian	A1 (basic)
Farsi	Native



TRAINING OR RESEARCH ACTIVITY

Description of activity
<ul style="list-style-type: none">For my previous master thesis in civil engineering, I developed a <u>process based</u> “<i>Quasi-Distributed Water Balance Model for Semi-Arid Regions</i>” using MATLAB programming language. For this research, a set of climatic and hydrologic data (12 years) were collected, manipulated and utilized. The model evapotranspiration outputs were compared to three different models in the area (GLDAS global model and two SWAT based researches) and it showed an acceptable correlation with them.I also hold a certificate of “<u>Programming for Geospatial Hydrological Applications</u>” offered by IHE Delft and UNESCO. Through, I gained knowledge how to handle GIS data in a Python environment for hydrology purposes.I have recently started working on the thesis of my ongoing master degree in University of Milan. The title is “Forecasting the Probability of Wild Fires by Implication of Machine Learning”, in which many various drivers and variables such as hydrologic parameters are involved. This research is co-supervised by Prof. Mojtaba Sadegh (Boise State University, Idaho) and will be focused on the State of California, US.

PROJECT ACTIVITY

Year	Project
2017 - 2021	<p>At <u>Hydrotech-Toos Engineering Consultation Firm</u>, in capacity of water resources specialist: Development of web-based decision support systems for:</p> <ol style="list-style-type: none">Water resources management (pilot region: North East Iran). For this project, a coupled SWAT-MODFLOW model was developed. Input preparation and output visualization were handled by ArcObjects SDK and SQL database.Agricultural water management (pilot region: Khoozestan Province, Iran). Remote sensing techniques were used to derive <i>landuse classification maps</i> of various years from landsat datasets combined with DEM data. <i>supervised machine learning</i> (SVM alg.) methods were applied by <u>Google Earth Engine (JavaScript)</u> and <u>ENVI software</u>.
2021	<p>At Water and Environment <u>Research Institute</u> (WERI) of Ferdowsi University of Mashhad, Iran. In capacity of research assistant:</p> <ol style="list-style-type: none">Iran Food Security project: Using Meteorologic-Ecologic data, GIS and optimization tools.Instructor for two software workshops: ArcGIS Desktop and QGIS for begginers. <p>In this period under a startup project for precision agriculture, I was responsible as project manager for production of a <u>Bowen-tower</u> prototype. This instrument was built to record soil and air moisture, temperature of soil and surface as well as solar radiation and wind speed. The gathered data was expected to be used along remote sensing data for farm scale management.</p>
2021	<p>At <u>Regional Water Authority</u> of Khorasan-Razavi Province, Iran. In capacity of River Hydraulics Engineer: Involved in Project control for three projects and responsible of review on Hydrology, Meteorology, physiography and river remediation design reports. HEC-RAS software as core for designing process of these projects.</p>



PUBLICATIONS

Articles
Water balance challenges in Iran and development of a framework for its enhancement, Journal of Water and Sustainable Development, Ferdowsi University of Mashhad, 2020 (In Farsi)
Development of a Quasi-Distributed Water Balance Model for Semi-Arid Regions, Manuscript will be submitted soon.
Geo-locating Unauthorised groundwater withdrawal by implication of machine learning and remote sensing derived evapotranspiration in arid regions, Manuscript will be submitted soon.

OTHER INFORMATION

Through my current data science master studies other than gaining core knowledge in **machine learning and statistics**, I've also had the opportunity to add notable skills to my ***Python and R programming*** capabilities; specially in dealing with time series data frames and two dimensional data.

Declarations given in the present curriculum must be considered released according to art. 46 and 47 of DPR n. 445/2000.

The present curriculum does not contain confidential and legal information according to art. 4, paragraph 1, points d) and e) of D.Lgs. 30.06.2003 n. 196.

Please note that CV WILL BE PUBLISHED on the University website and It is recommended that personal and sensitive data should not be included. This template is realized to satisfy the need of publication without personal and sensitive data.

Please DO NOT SIGN this form.

Place and date: MILAN, 16-November-2022