



Mohammad Reza Fathi

Contact Info



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<https://www.researchgate.net/profile/Mohammadreza-Fathi-4>

Soft Skills

Collaboration / Teamwork



Time management



Organization



Problem-solving



Critical Thinking



Academic writing



Languages

English: working professionally

Persian: native

Summary

Detail-oriented with a singular focus on the dynamic field of Remote sensing applications in forest management and monitoring. Demonstrates a profound interest in utilizing remote sensing capabilities to make substantial contributions to the comprehension and mitigation of biodiversity challenges in terrestrial ecosystems, especially forests.

Education

MSc in remote sensing (2021 - 2024)

- K.N. Toosi University of Technology | Tehran, Iran
 - Score: 17.35 out of 20 (GPA: 3.77)
 - Thesis topic: Developing a Python API utilizing Google Earth Engine for monitoring susceptible and affected areas by *Oak Charcoal Disease (OCD)* using a CUSUM-based approach: a case study in Hyrcanian forests (Northern Iran)
 - Supervisors: Dr. Hooman Latifi & Dr. Siddhartha Khare
 - Advisor: Dr. Yasser Maghsoodi

BEng in Geomatics Engineering (2016 – 2021)

- University of Bojnord | North Khorasan, Iran
 - Score: 16.45 out of 20
 - Supervisor: Dr. Yasser Jouybri

Academic Experiences

Teacher Assistant for an MSc course

- Course: Ecological Applications of Remote Sensing for Ecosystem Monitoring - Theory & Practice
 - K.N. Toosi University of Technology | Tehran, Iran
 - Professor: Dr. Hooman Latifi



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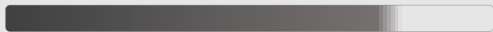
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Programming background

I have experience working with R in conducting geospatial analysis; however, my primary language of interest is Python, in which I possess great expertise relevant to my field. Additionally, I am completely familiar with leveraging Google Earth Engine, especially through its Python API.

Python

- Geospatial Operations
 - Rasterio | Gdal | Geopandas | Rioxarray | Xarray
- Statistics (ML & NN)
 - Scikit-learn | TensorFlow
- Data processing
 - Numpy | Pandas
- Data Visualization
 - Matplotlib | Seaborn | Plotly | Leaflet map
- Parallel Processing
 - Ray | Dask
- GUI / API development
 - Tkinter | Ipywidgets | Streamlit
- Cloud computing
 - EE | GEE map | Planetary-computer

Google Earth Engine

- Time series analysis
- Change detection
- Supervised & Unsupervised classification
- API development (EE as backend)



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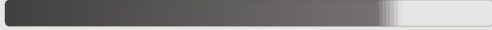
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Soft Skills

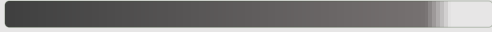
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Time management



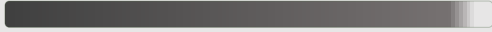
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Projects & Work Experiences

- geomatics engineer for 2 years at Jamefanavaran Omran Gostar Consulting firm. (2018 - 2020)
- Filed work for *Oak Charcoal Disease (OCD)* in the Hyrcanian forest. (July – August 2023)
- Experience with Very High-Resolution (VHR) datasets, including World-View 2/3, Spot 6/7, and Pléiades Neo.
- SAR dataset processing and applications in forestry, with a focus on SAR Sentinel-1 indices and interferograms for vegetation monitoring.

Publications

PaRaVis: an automatic Python graphical package for ensemble analysis of plant beta diversity using remote sensing proxies.

- under review in *Ecological Informatics*

References

- | | |
|------------------------|--|
| Prof. Hooman Latifi | <ul style="list-style-type: none">• Associate Professor<ul style="list-style-type: none">- Dept. of Photogrammetry and Remote Sensing, K.N.Toosi University of Technology: Tehran, IR- hooman.latifi@kntu.ac.ir• Associate Professor<ul style="list-style-type: none">- Dept. of Remote Sensing, University of Würzburg: Würzburg, Bayern, DE- hooman.latifi@uni-wuerzburg.de |
| Prof. Siddhartha Khare | <ul style="list-style-type: none">• Assistant Professor<ul style="list-style-type: none">- Dept. of Geomatics Engineering, IIT Roorkee• Academic Associate at Habitat, Canada• Founder of startup Bhoomicam Pvt. Ltd., India<ul style="list-style-type: none">- siddhartha.khare@ce.iitr.ac.in |
| Prof. Hamed Gholizadeh | <ul style="list-style-type: none">• Assistant Professor<ul style="list-style-type: none">- Dept. of Geography, Oklahoma State University, Stillwater, Oklahoma, United States- hamed.gholizadeh@okstate.edu |
| Prof. Yasser Jouybari | <ul style="list-style-type: none">• Assistant Professor<ul style="list-style-type: none">- Dept. of Engineering, University of Bojnord: North Khorasan Province, Bojnord, IR- Jouybari@ub.ac.ir |