Saeid Aminjafari

Ph.D. in Physical Geography

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Languages: English (C1), Persian (native), Swedish (B2), Arabic (B1)

About Me

My organizational skills are reflected in my flexibility. I find it easy to adjust and can handle changes, even quick and unforeseen ones. In addition to this, I want one foot in the present and the other in the future, and I can set visions and targets. I have never regretted being ambitious and driven as a person.
Since I am self-disciplined, I do not fear receiving challenges and I rather like to succeed with things that are a bit "impossible". This enables me to learn new technologies rather quickly. I adopted this flexibility to learn and enjoy new areas while working with and analysing satellite data, which requires constantly learning new software, models, and technologies due to rapid advances in this field. I naturally have confidence in others and make them feel that I trust them. With this skill, I always received positive feedback from master's and PhD students I mentored or taught courses in their program. This skill is valuable in projects with several collaborators, where it is important to work as a team to deliver a final product.

Professional Experience

● **Principal Investigator (PI) of Research Project** **(Starting Jan 2026, appointment confirmed)**
Department of Physical Geography, Stockholm University, Sweden.
Project: Integrating Earth Observations for Enhancing Sweden's National Water Security Under Climate Change
- PI of a project funded by the Swedish National Space Agency (Rymdstyrelsen) to establish a national-scale, satellite-based monitoring system for Sweden's surface water dynamics.
- The project uses high-resolution data from recent Earth Observation (EO) missions including Surface Water and Ocean Topography (SWOT), Ice, Cloud, and land Elevation Satellite-2 (ICESat-2), and NASA-ISRO Synthetic Aperture Radar (NISAR), to quantify river flow, water extent, elevation, and storage.
Skills: *Hydrology · Remote Sensing · Earth Science · Geographic Information Systems (GIS) · Hydrogeodesy · InSAR · Altimetry · SAR . Python & MATLAB programming*

● **Research Associate in Geoscience and Remote Sensing** **(2024 - now)**
Dept. of Space, Earth and Environment, Chalmers University of Technology, Sweden
Project: Monitoring vertical ground motion
I am responsible for a project funded by the Swedish Transport Administration (Trafikverket) to estimate ground motion around and on railroads in Sweden. We use satellite data and space geodesy to estimate these motions as well as hydroclimatic and hydrogeological data to understand the main factors leading to those motions, e.g., frost and thaw, precipitation, soil characteristics, and landslides.
Skills: *Hydrology · Remote Sensing · Earth Science · Geographic Information Systems (GIS) · Hydrogeodesy · InSAR · Altimetry · SAR . Python & MATLAB programming*

● **Ph.D. in Physical Geography** **(2019 - 2023)**
Dept. of Physical Geography, Stockholm University, Sweden
During my PhD employment, I gained valuable interpersonal skills through various teaching and mentoring responsibilities. I also learned how to develop my own ideas and work independently, at the same could expand my network and collaborate with people in my team and across other research institutions. Other important skills were

time management and organizational skills, which helped me deliver satisfactory outcomes within the required timeframe.
I used Earth Observations to understand changes in water resources (lakes, rivers, and wetlands). I quantify changes in water levels, water extent, and water storage.
I answer environmental questions regarding these changes:
- Why are they changing?
- What is the main driver?
- How to differentiate the impact of humans, climate change, and their compound effect on water resources?
I used Radar altimetry, InSAR, satellite optical images, hydroclimatic data, and machine learning to answer these questions.
I also taught hydrology courses (such as advanced hydrology and Water and Land Risk Assessment) and mentored Ph.D. and master's students.
Skills: *Project Management . Communication . organizational skills . Goal-oriented . Analytical . Team player . Fund raising . Hydrology · Remote Sensing · Geospatial Data analysis · Geographic Information Systems (GIS) · Hydrogeodesy · InSAR · Geodesy · Altimetry · SAR . Python & MATLAB programming . Machine Learning*

● Geophysical marine surveyor, data processor, and cartographer (2018 - 2019)
SEA WORK SURVEY (SWS) EST, Tehran, Iran
My responsibilities were communication with the client on the procedure at the beginning of the project, at the end of each day, and at the end of the project. I was also responsible for communication within the group to ensure proper daily deployment of the equipment and project setup.
- Geophysical Surveying
- Multibeam echosounder data processing
- Sea bottom mapping and cartography
- Navigating drilling rigs
- Debris removal
- Writing Daily Progress Reports (DPRs)
- Writing industry proposals
Skills: *Qimera · QINSy · Geophysical Surveys · offshore · Multibeam Echosounder Data Processing · AutoCAD*

● Researcher and instructor (2015 - 2017)
Hydrography and Tidal Affairs, National Cartographic Centre of Iran
I had research responsibilities and communicated the outcomes within the group. I had to deliver the requested results within predefined deadlines.
- Tidal modeling and oceanography
- Satellite altimetry
- InSAR
Skills: *Satellite Altimetry · InSAR · Tidal modeling · Oceanography*

Education & Research

● Ph.D. in Hydro-Geodesy (2019 - 2023)
Department of Physical Geography, Stockholm University, Sweden
- I used Landsat images and maximum likelihood classification to quantify water occurrence and its changes in the Selenga River Delta. I used hydroclimatic data such as runoff, temperature, suspended sediment concentration, and lake water level to understand the drivers of the change in surface water occurrence.
- I developed the InSAR methodology to quantify water levels in Swedish lakes.
- I studied changes in a large set of lakes in Sweden and answered the questions regarding those changes and their drivers. I assessed the impact of human regulation (such as damming for hydropower, mining, irrigation, and transportation canals) on changes in lake water levels. this is the first comprehensive study on Swedish lakes.
Skills: *Hydrology · Remote Sensing · Earth Science · Geographic Information Systems (GIS) · Hydrogeodesy · InSAR · Altimetry · SAR . Python & MATLAB programming . Machine Learning*

● **M.Sc. in Marine Geodesy** **(2011 - 2014)**
School of Surveying and Geospatial Engineering, University of Tehran, Iran.
- Tidal modelling
- Advanced Global Positioning System
- Monitoring embankment dam deformation with InSAR

Skills: *Remote Sensing · Geographic Information Systems (GIS) · InSAR · MATLAB & Python programming Languages · Hydrography*

● **B.Sc. in Geomatics** **(2006 - 2010)**
Tafresh University, Tafresh, Iran

Teaching & Supervision

● **Advanced Hydrology 7.5 credits (Stockholm University)** **(2020 - 2022)**
Teacher assistant in remote sensing of hydrology. In this module, I taught students how to use radar remote sensing to understand hydrologic connectivity and water level changes.

● **Water Management and Pollution, 15 credits (Stockholm University)** **(2021 - 2021)**
Teacher assistant in optimization. In this module, students learned how to model the most efficient way to mitigate pollutants' flow in a basin. I used the Pyomo model in this course.

● **Co-supervision of two Master's students in remote sensing of hydrology (Stockholm University)** **(2021 - 2022)**

● **Tellus I – Physical Geography, 15 credits (Stockholm University)** **(2019 - 2021)**
The course deals with hydrology, mass movements, rivers and flooding, oceans, coastlines, groundwater, the atmosphere and climate, arid regions, geomorphology, Quaternary geology, and global changes.

Training

● **Pedagogical training:** "Professional development course 1, Teaching and Learning" 7.5 credits (Centre for the Advancement of University Teaching, Stockholm University) **(2021)**

● **Machine Learning:** Geo-computation and machine learning for environmental applications, 7.5 credits (Bolin Centre, Stockholm University) **(2021)**

Board member

I was a member of the PhD council in 2020 at Stockholm University. My responsibilities were informing students about the latest decisions made by the department board and informing the department board about the needs of the students. In addition, I organized social events and served as the treasurer for handling expenses and receiving funding.

IT skills

MS Office, Zoom, Python, and MATLAB programming languages, QGIS, ArcMap, ArcGIS Pro, Google Earth Engine, Qimera, QINSy, AutoCAD