

Education

- **PhD in Agricultural & Biological Engineering (Hydrology)**, University of Florida, USA 2025 - Present
- **PhD in Civil & Environmental Engineering**, University of South Carolina, USA - (moved to UF) 2024 – 2025
- **M.Sc. Thesis Work**, University of Groningen, Netherlands 2023
- **M.Sc. Civil Engineering for Risk Mitigation**, Polytechnic University of Milan, Italy 2021–2023
- **B.Sc. Civil Engineering**, University of Imam Khomeini, Iran 2015–2021

Research Interest

- Hydroclimate Extremes
- Compound and Cascading Disasters
- Water Systems Modelling
- Multi-hazard Risk Assessment
- Statistical Analysis
- Climate Change Adaptation

Publications

- Peer-review paper: **Learning Efficiency of Geospatial Foundation Models: Transfer Learning for SAR Flood Mapping with Prithvi vs. UNet and SegFormer** - Manuscript in Preparation
- M.Sc. Thesis: **Applications of Deep Learning and Remote Sensing in Disaster Management Cycle** ([Link](#))
- Project Report: **Geospatial Data Processing to Support Seismic Emergency Management** ([Link](#))
- Project Report: **Geo-Engineering Techniques for Unstable Slopes - Shallow Landslide Simulator Experiment** ([Link](#))

Posters & Presentations

- **AGU2024 Poster Presentation** - Presented “Advancing Camera-Based Monitoring for Operational Hydrologic Applications” ([Link](#))
- **EGU2024 Poster Presentation** - Presented “Harnessing Heterogeneous Sources of Data and Artificial Intelligence for Hydrologic Monitoring” ([Link](#))
- **SCARC2024** - Presented “Mapping Risk: Coastal Vulnerability from South Carolina to the East Coast” ([Link](#)) ([Agenda](#))
- **SCDOT Research & Innovation 2024**: Pitched the idea of developing vulnerability assessment for transportation infrastructure using the upcoming ATLAS15 and Machine Learning Algorithms
- **GISDay MicroConference @UofSC 2024** - Presented “Integrated Socio-Environmental Vulnerability Assessment of Coastal Hazards Using Data-Driven and Multi-Criteria Analysis Approaches” ([Agenda](#))

Honors & Awards

- **2025**: won travel grant to attend the [Tethys Summit 2025](#)
- **2024**: Won 9th annual meeting scholarship award for [South East & Caribbean Disaster Resilience Partnership](#)
- **2024**: Won the data challenge competition (\$3500) for [South East Coastal Ocean Observing Regional Association](#)
- **2024**: Won 2nd place (\$2500 award) in the [IBM Call for Code competition at South Carolina State Universities](#)
- **2023**: Won the Erasmus scholarship to study in Portugal
- **2022**: Won the Erasmus scholarship to study in Poland
- **2021**: Awarded the Italian government scholarship for foreign students
- **2018**: Ranked 6th among Civil Engineering students at IKIU
- **2016**: Ranked in the top 0.01% among 200,000 participants in the nationwide universities entrance exam

Skills

- Technical Skills:

- **Programming:** Python, JavaScript, MATLAB, SQL
- **Python Libraries:** Numpy, Pandas, Matplotlib, Scikit-learn, Keras, OpenCV
- **Softwares:** ArcGIS Pro, QGIS, HEC-RAS, SNAP
- **Online Platforms:** Google Earth Engine, NASA Earth Data, Copernicus DataSpace Browser
- **ESRI Suit:** ArcGIS Online, ESRI Experience Builder, ESRI Instant App, ESRI Story Builder, ESRI Dashboards

- Soft Skills:

- **Presentation:** Engaging presenter, using visual aids & multimedia, clarity & coherence
- **Documentation:** clear & comprehensive reports, proficient in technical writing, thorough documentation
- **Teamwork:** adaptable to cross-cultural environments, experience in interdisciplinary teams

Work Experience & Volunteering

Geospatial Application Development Intern @SCDOT

May 2025 - present

- Developing advanced web GIS applications using ArcGIS Experience Builder Enterprise (Developer Edition)
- Designing and implementing custom widgets with JavaScript and React to extend core functionality
- Collaborating with the GIS team to support transportation-related spatial analysis and data visualization
- Integrating real-time data APIs and optimizing user interfaces for enhanced stakeholder engagement

Geospatial Administrative Associate @Gamecock Geospatial Community UofSC

Oct 2023 - present

- **Event coordination:** Coordinated and organized GIS meetings, workshops, and events, preparing agendas and documenting outcomes to streamline project communications and follow-up actions.
- **Project Support:** Supported project documentation and data management, maintaining organized records and assisting with budgeting and reporting for GIS initiatives.
- **Collaboration & Outreach:** Engaged with campus departments and external partners to foster collaboration, enhance resource access, and support strategic goals in geospatial program development.

Geospatial Data Scientist Intern @Geoapp s.r.l

Oct 2023 - Jan 2024

- Developed a QGIS Plugin to find unstable parts of the land in mining activities.
- Optimized the processing chain to minimize the effort and request time to process routine tasks.
- Created a pipeline to automate detection of unstable parts of open-pit mines reducing the analysis of each site from 8 hours to 20 minutes

Courses & Certificates

- **Modern Geo Apps - Esri**
 - Module 1: Esri Instant Apps
 - Module 2: Esri Dashboards
 - Module 3: Esri Experience Builder
 - Module 4: Esri Story Builder
- **Going Places with Spatial Analysis - Esri**
 - Module 1: Understanding and Comparing Places
 - Module 2: Determining How Places Are Related
 - Module 3: Finding Best Locations and Paths
 - Module 4: Detecting and Quantifying Patterns

- **Machine Learning for Earth Observation** - EO College
 - Module 1: Bayesian Estimation and Machine Learning in Inverse Problems
 - Module 2: Self-Supervised Learning & Tapping the Power of Unlabeled Data
 - Module 3: Deep Learning for Synthetic Aperture Radar
- **Machine Learning Specialization** - *Stanford University*
 - *Module 1: Supervised Machine Learning, Regression & Classification*
 - *Module 2: Advanced Learning Algorithms*
 - *Module 3: Unsupervised Learning, Recommenders & Reinforcement Learning*
- **SQL for Data Science** - *University of California, Davis*
 - *Module 1: Getting Started & Selecting & Retrieving Data with SQL*
 - *Module 2: Filtering, Sorting, and Calculating Data with SQL*
 - *Module 3: Subqueries & Joins in SQL*
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