

PEGAH AFLAKIAN

Location: Italy

Education

- **Genoa University - Master's in Engineering for Natural Risk Management (Sep 2022-Dec 2024)**
| Savona, Italy - GPA: 110/110 with honors
- **Shahid Beheshti University - Program of Post-Disaster Reconstruction (Sep 2019- May 2021)**
| Tehran, Iran
- **Bu Ali Sina University - Bachelor of Architecture (Sep 2013- Dec 2017) | Hamedan, Iran**

Master Thesis Topic

Wildfire Risk Mapping and Climate Projections (December 2024)

- Supervisor: Prof. Andrea Trucchia - Thesis Grade: 6/6
- The thesis provides insights into wildfire risk mapping strategies in the Catalonia region, with projections for future climate scenarios using Machine Learning and GIS. The research was conducted in collaboration with the CIMA Research Foundation as part of the EU Horizon project CLIMAAX, and part of the project was completed during my internship at CIMA.

Publications & Presentations

- **Wildfire Risk Mapping in a Changing Climate: Insights from the Catalonia Pilot of the CLIMAAX Project - Poster presentation (In person)**
F. Ghasemiazma, P. Aflakian, N. Perello, A. Trucchia, S. Degli Esposti, P. Fiorucci, N. Rebora presenting the poster in CLIMAAX Workshop, June 2025, Barcelona, Spain.
- **Wildfire Risk Mapping in a Changing Climate: Insights from the Catalonia Pilot of the CLIMAAX Project**
A. Trucchia, F. Ghasemiazma, P. Aflakian, G. Meschi, A. Casajús Vallés, N. Gasulla Fernández, N. Rebora, P. Fiorucci Presented at the 4th Annual Meeting of the Mediterranean Geosciences Union (MedGU), 25–28 November 2024, Barcelona, Spain.
Proceedings to appear in Springer ASTI Series, indexed in Scopus & SCImago (ISSN: 2522-8722 / 2522-8714).
- **An analysis of underground spaces and their applications throughout history (case study: Sāmen, Arzanfoud & Ouyi)**
P. Aflakian, A.Hosseini Sabzevari, F.Ghasemiazma Conference Paper, March 2022

Related Professional Experience

- **Research Intern | CIMA Research Foundation, Italy (Mar 2025 – Present)**
 - Contributing to the EU-funded FIRE-SCENE project, which aims to improve wildfire risk planning and governance especially in tourist and forest areas with more focus on people, due to climate change.
 - Conducting geospatial and statistical analysis of wildfire risk with GIS and python.
 - Producing cartographic outputs to support climate-related risk assessment.
 - Gaining advanced experience in operational environmental data science.
 - **Academic Internship | CIMA Research Foundation, Savona, Italy (Oct 2024 – Nov 2024)**
 - Conducted wildfire susceptibility, fuel, hazard, and risk mapping using Machine Learning techniques.
 - Analyzed wildfire risk management by integrating climate projections.
 - Applied Random Forest and XGBoost algorithms for wildfire hazard assessment.
 - **Junior Architect | M.M Design Studio, Hamedan, Iran (May 2019 - Dec 2021)**
 - **Junior Architect | Sharestan-e Haft Hesar, Hamedan, Iran (May 2017– Apr 2018)**
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Skills & Competencies

Technical Skills:

- **Risk Assessment and Management:** Risk, Hazard, and Vulnerability assessment and mapping, and Risk Management
- **GIS & Remote Sensing:** ArcGIS and QGIS, spatial data analysis, mapping technologies.
- **Machine Learning:** Random Forest, XGBoost
- **Programming & Simulation:** Python (Programming Language), MATLAB, Simulink.
- **Data Analysis & Modeling:** Microsoft Excel, statistical modeling
- **Architectural & Engineering Tools:** AutoCAD, SketchUp, Revit, 2D and 3D Modeling, Adobe Photoshop

Soft Skills:

- **Problem-solving and critical thinking, Teamwork and leadership in research initiatives, Effective communication and presentation skills**

Languages:

- **English (C1), Italian (A2), Persian (Native)**

Awards and Achievements

- **Finalist & Special Award Winner** — B-Prepared Hackathon (*Sep 2025*) | *Budapest, Hungary*
- **Member**, Iran National Elites Foundation. (*Jul 2019-Present*)
- **Ranked 3rd nationally**, competitive entrance exam for admission to the Post-Disaster Reconstruction program. (*Jul 2019*) | *Tehran, Iran*

Grants

- **PNRR Scholarship (€6,000)**, RETURN Academy 2025 (84-hour program, Italian), Università di Napoli Federico II; awarded (disbursement pending). (*Sep-Nov 2025, ongoing*). *Napoli, Italy*
 - **B-Prepared Consortium Travel Grant**, B-Prepared Hackathon Final. (*Sep 2025*) | *Budapest, Hungary*
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Workshops, Volunteer Works & Extracurricular Activities

2-day CLIMAAX workshop | Barcelona, Spain (Jun 2025)

- With a focus on water and heat-related risks, including poster sessions and valuable networking opportunities.

Volunteer Representative | University of Genova (2023 - 2024)

- Advocated for students in the Engineering for Natural Risk Management program by facilitating discussions and enhancing student engagement.

Post-Disaster Reconstruction Visit | Sarpol-e Zahab, Iran (2020)

- Observed and analyzed the post-earthquake reconstruction process.

Post-Disaster Field Visit | Golestan Province, Iran (2019)

- Participated in a field assessment after the 2019 flash floods to study impacts and recovery processes.
- Engaged with local communities and professionals to evaluate response strategies.
- Studied building resilience and disaster recovery efforts in the affected areas.

Training workshop of Develop a Disaster Management Action Plan

- By Kimia Kherad Pars company and CIVILICA

Training Workshop of New Methods and Approaches to the Resilience of Urban Settlements and Post-Disaster Accommodations

- In 7th comprehensive crisis management conference by Kimia Kherad Pars company and CIVILICA

Training Workshop of Incident Command System (ICS)

- In 7th comprehensive crisis management conference by Kimia Kherad Pars company and CIVILICA

Algorithmic Design of Persian parquet / Converting the sharp Gereh 10 to soft Gereh 10 on the sphere surface Workshop | Bu Ali Sina University (Dec 2015 - Sep 2016)

- In this architectural project, we have converted sharp Gereh on soft Gereh on sphere.

Certifications

Disaster & Risk Management

- *Disaster Preparedness*, Coursera (By University of Pittsburgh), Aprile 2023
- *When Disaster Meets Conflict*, Coursera (By Erasmus University Rotterdam), June 2022
- *Disaster, Crisis, and Emergency Preparedness Communication*, Coursera (By the State University of New York), March 2022

Digital Twin & Simulation

- *Introduction to Digital Twin*, LinkedIn Learning, November 2023
- *Mastering Digital Twins*, Coursera (By EIT Digital), December 2021
- *Digital Twins*, Coursera (By the University of Michigan), June 2022
- *MATLAB Onramp*, MathWorks, February 2023
- *Simulink Onramp*, MathWorks, January 2023

Programming & Data Science

- *Programming for Everybody (Python)*, Coursera (By the University of Michigan), January 2022
- *Python Core*, SoloLearn, March 2022
- *Python Data Structures*, SoloLearn, March 2022
- *Python for Beginners*, SoloLearn, December 2021