Curriculum Vitae

PERSONAL INFORMATION

- **Last Name:** Sadeghiamirshahidi
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- **Address:** Department of Civil, Environmental, and Geospatial Engineering,
  Michigan Technological University,
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EDUCATION

Ph.D. (May, 2019) - **Civil Engineering (Geotechnical Engineering)**, Civil and Environmental Engineering Department, Michigan Technological University, Houghton, MI, USA.

M.Sc. (October, 2011) - **Mining Engineering**, Department of Mining and Metallurgical Engineering, Amirkabir University of Technology (Tehran Polytechnic), Tehran, Iran.

B.Sc. (September, 2007) - **Mining Engineering,** Department of Mining Engineering, Yazd University, Yazd, Iran.

ACADEMIC EXPERIENCE

- **August 2022-Present**

  Assistant Professor: Department of Civil, Environmental, and Geospatial Engineering, Michigan Technological University, Houghton, MI.

- **August 2019-May 2022:**

  Assistant Professor: Department of Geological Engineering, Montana Technological University, Butte, MT.

- **Summer, 2016**

  Lecturer: Department of Civil and Environmental Engineering, Michigan Technological University, Houghton, MI, USA. (taught CEE3810-Soil Mechanics for Engineers, Four credit class with a laboratory)

INDUSTRY WORK EXPERIENCE

- **September, 2013- June, 2014:**

  Cavosh Madan Consulting Engineers, ***Tehran, Iran***, Economical assessment and feasibility studies of a prospective Iron seam near Sangan Mine during exploration stages.

- **September, 2011- August, 2013:**

  Alborz Sharghi Coal Washing Company, ***Shahrood, Iran,*** Investigation of the extent of pyrite oxidation at different locations and depths in waste dumps of the Alborz Sharghi Coal Washing Company (with an annual production of 300,000 tons of washed coal) and the environmental consequences of possible Acid Mine Drainage (AMD) production due to the pyrite oxidation.

- **September, 2007- September, 2009:**

  Zafar Construction Company, ***Tehran, Iran,*** Oversaw the construction of a 10-story (20 units) skyscraper in the business district of Zafar Street, Tehran, Iran.

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Research Interests

- Soil and rock mechanics
- Ground improvement and foundation design
- Cold regions Geotechnics
- Bio inspired Geotechnics/Foundations
- Geomaterial behavior and testing
- Artificial intelligence and machine learning in geotechnical engineering
- Measurement While Drilling (MWD) in geotechnical engineering
- Slope stability and debris flow hazards
- Stability of underground structures
- Mine tailings and abandoned mines geohazards and remediation
- Intellectual, numerical and analytical modeling

Research Grants

- **2023-2026:** Minnesota Department of Transportation-National Road Research Alliance, NRRA (**$216,845**): Instrumentation and Data Management/Analyses for Measurement While Drilling Technology (Role: PI)
- **2021-2022:** Montana Department of Transportation (**$33,210**): Numerical Modeling of the Test Pit for Falling Weight Deflectometer Calibration (Role: PI)
- **2022-2023:** Montana Department of Transportation (**$155,760**): Organization and Analysis of MWD Data using Machine Learning techniques (Role: PI)
- **2022-2023:** National Science Foundation, NSF (**$198,159**): Interdisciplinary Research Experience in Environmental Science and Engineering (Role: Co-PI)
- **2020-2021:** Fitzgerald Law Firm (**$17,451**): Using Geophysical methods for determining the unknown extent of the abandoned Blackhawk gypsum mine, Blackhawk, SD (Role: PI)

Publications

- The up-to-date list of publications can be found on Google Scholar click here

Skills and Qualifications:

- **Experimental:**

  Soil and Rock Laboratory and field Tests: Uniaxial Compression Strength (UCS), Triaxial Compression Strength, Direct Shear, Consolidation settlement, Cone Penetration, Permeability (Constant Head and Falling Head), Freeze-Thaw durability, Wetting-Drying Durability, Percolation in soils, Infiltration in soils, Proctor Compaction, Soil's Relative Density, Soil's In-place Density (Water balloon, sand cone), Thermal Conductivity, Visual Identification of Soils and Rocks, Moisture Content, Organic Content, Grain Size Distribution (Mechanical Sieve and Hydrometer), Atterberg Limits, Specific Gravity (Helium Pycnometer and water displacement methods), Soil Thermal Conductivity, Calcium Carbonate Content (calcite equivalent), Munsell color, Brazilian Splitting Tensile Strength (BTS), Point Load Index (PLI), Schmidt hammer,

- **Safety Training:** General Safety Training, Personal Protective Equipment (PPE), Job Hazard Analysis, Hazard Communication, Chemical Hygiene, Compressed Gas Cylinder Safety, Crystalline Silica Awareness, Hydrogen Sulfide Safety
- **Simulation Software:** FLAC3D, ArcGIS, Rocscience, PLAXIS, GEO5, Surffer, MATLAB (Simulink), ERDAS IMAGINE
- **Programming Tools:** MATLAB (.m file), Python

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ORGANIZATIONS:

- Member of ASCE's Frozen Ground Committee under the Cold Regions Engineering Division
- American Society of Civil Engineers (ASCE), Associate Member
- Geo-Institute of the American Society of Civil Engineers (G-I ASCE)
- American Society of Civil Engineers, Michigan Section-Upper Peninsula Branch
- American Society of Civil Engineers, Transportation and Development Institute (TDI)
- International Society of Soil Mechanics and Geotechnical Engineering (ISSMGE)
- Deep Foundation Institute- Drilled Shaft-committee member
- Deep Foundation Institute- Driven Pile-committee member
- Deep Foundation Institute- Ground Improvement-committee member
- Deep Foundation Institute- Subsurface Characterization for Deep Foundations-committee member
- Deep Foundation Institute- Testing and Evaluation-committee member
- Engineers Without Borders (EWB)
- American Rock Mechanics Association (ARMA), Individual Member
- International Society for Rock Mechanics (ISRM)
- Society of Mining, Metallurgy, and Exploration (SME), Professional Member
- International Association for Promoting Geoethics (IAPG)