

Tayeb Alipour-Fard

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Academic Position

Assistant Professor, Kerman Graduate University of Advanced Technology, Kerman, Iran

- **Duration:** September 2024 – Present
- **Faculty of Civil and Surveying Engineering**

Education

PhD in Remote Sensing and Photogrammetry, University of Tehran, Iran

September, 2020

- **Dissertation:** Attention Mechanism for Hyperspectral Image Classification
- **Supervisors:** Prof. Hossein Arefi and Prof. Lorenzo Bruzzone

MSC in Remote Sensing, Kerman Graduate University of Advanced Technology, Iran

September, 2013

- **Dissertation:** Semi-Supervised Feature Extraction for Hyperspectral Image Classification
- **Supervisors:** Dr. Barat Mojaradi

BSC in Civil-Survey Engineering, Shahid Rajaee University, Iran

September, 2011

Experience

Visiting Researcher, Department of Information Engineering and Computer Science, University of Trento, Italy

December, 2017 - September, 2018

- **Research Topic:** Deep Learning for Hyperspectral Image Classification
- **Supervisors:** Prof. Lorenzo Bruzzone

Senior Civil Engineer and Advisor, Oil and Gas Services

2018 - Present

- Project Title: Mansouri Oilfield Development EPC/EPD Project / Surface Work-Packages.
- Project Title: Ramshir Oilfield Development (Pipeline, Flowline and Wellhead Facilities)
- Project Title: LAB and LABSA Unit ESFAHAN Oil Refinery.
- Project Title (Pipeline): Design of approximately 550 kilometers of AG/UG pipelines for oil and gas infrastructure projects in Mansouri, Ramshir, and Binak fields.

Senior Civil Engineer, Road and Airport Services

2009 - 2018

- Project Title (HighWay and Freeway): Geometric design and engineering management of approximately 110 kilometers of freeway (Shahrud-Meyami, Ilam-Kermanshah).
- Project Title (Main Road): Geometric design of approximately 300 kilometers of main roads (Pashneh Zagros Axis, Damghan-Isfahan, etc.)
- Project Title (Intersection and Interchange): Geometric design of 5 interchanges in urban and suburban areas.
- Project Title (Airport): Land-side design for Shahid Hasheminejad Airport in Mashhad and the southern section of Imam Khomeini International Airport.

Professional Activities

Entrepreneurship

- Founder of the **InnoVision Startup**, specializing in machine vision for inspecting oil and gas pipelines and designing an early leakage indicator using advanced sensors.

Research Projects

- **Research Project for National Elites Foundation:** Estimation of displacement and subsidence of the Salman platform using radar images (2021-2023), (Ranked First among Elite Servants).
- **Member of the STRATUS Project Design and Development Team:** A joint project between the Remote Sensing Laboratory of the University of Trento, Italy, and the Italian Space Agency (2016–2017) as a Visiting Researcher.
- **Principal Investigator:** Research project on the potential of iron detection using hyperspectral satellite imagery and spectrometers, International Center for Science, High Technology, and Environmental Sciences, Kerman, Iran (2011–2012).

Management and Technical Leadership

- **Technical Manager:** "Automatic Object Detection in X-Ray Images Using Deep Learning Methods," Avijeh Knowledge-Based Company; Client: Islamic Republic of Iran Customs Administration.
- **Research Project Manager:** Developing multimedia training materials for Civil3D and AutoCAD Land Desktop software, 2013, Client: National Cartographic Center, Iran

Workshops

- Organizer of **GIS Training Workshops**: Ministry of Roads and Urban Development, Construction and Development of Transportation Infrastructure Company, Tehran, September 2016.
- Organizer of **Civil3D Software Training Workshop**: Surveying Training Institute, National Cartographic Center of Iran, Tehran, August 2013.

Publications

- Ayesha Shafique; Seyd Teymoor Seydi; Tayeb Alipour-Fard; Guo Cao; Di Yang, SSViT-HCD: A Spatial Spectral Convolutional Vision Transformer for Hyperspectral Change Detection, IEEE Journal of Selected Topic in Applied Remote Sensing, 2023, Doi: 10.1109/JSTARS.2023.3251646
- Tayeb Alipour-Fard, Mercedes E. Paoletti, Juan M. Haut, Hossein Arefi, Javier Plaza and Antonio Plaza. Multi-branch Selective Kernel Networks for Hyperspectral Image Classification. IEEE Geoscience and Remote Sensing Letters, 2020, Doi: 10.1109/LGRS.2020.2990971.
- Tayeb Alipour-Fard, Mercedes E. Paoletti, Juan M. Haut, Hossein Arefi, Javier Plaza and Antonio Plaza. Multi-branch Selective Kernel Networks for Hyperspectral Image Classification. IEEE Geoscience and Remote Sensing Letters, 2020, Doi: 10.1109/LGRS.2020.2990971.
- Tayeb Alipour-Fard, Hossein Arefi, Structure Aware Generative Adversarial Networks for Hyperspectral Image Classification, IEEE Journal of Selected Topic in Applied Remote Sensing, 2020, Doi: 10.1109/JSTARS.2020.3022781.
- Mercedes E. Paoletti, Juan M. Haut, Tayeb Alipour-Fard, Swalpa K Roy, Eligius MT Hendrix and Antonio Plaza. Separable Attention Network in Single-and Mixed-Precision Floating Point for Land-Cover Classification of Remote Sensing Images. IEEE Geoscience and Remote Sensing Letters, 2021, Doi: 10.1109/LGRS.2021.3108965.
- Reza Akbari Dotappeh Sofla, Tayeb Alipour-Fard, Hossein Arefi. Road extraction from satellite and aerial image using SE-Unet. Journal of Applied Remote Sensing, 2021.
- Tayeb Alipour-Fard, Hossein Arefi, Virtual Training Sample Generation by Generative Adversarial Networks for Hyperspectral Images Classification, The International Archives of Photogrammetry, Remote Sensing and Spatial Information Sciences, 2019.
- Tayeb Alipour-Fard, Hossein Arefi, A Novel Deep Learning Framework by Combination of Subspace-Based Feature Extraction and Convolutional Neural Networks for Hyperspectral Images Classification, IGARSS 2018 - 2018 IEEE International Geoscience and Remote Sensing, Spain.
- Vahid Khalifeh, Amir Golroo, Khosro Ovaisi, Tayeb Alipour-Fard, A Low Cost Data Collection Approach to Pavement Mosaic Reconstruction, Journal of Engg. Research Vol, 2018.
- Tayeb Alipour-Fard, Hossein Arefi, Dimensionality Reduction Of Hyperspectral Images By Combination Of Non-Parametric Weighted Feature Extraction (NWFE) And Modified Neighborhood Preserving Embedding (NPE). , ISPRS the International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences, 2014.
- Tayeb Alipour-Fard, Barat Mojaradi, Ali Esmaeily, Feature Extraction of Hyperspectral Images Based on Reformulate Between Class Scatter Matrix, IGARSS2012, 2012 IEEE International Geosciences and Remote Sensing Conference, 2012, Germany .
- Mojtaba Namvaran, Tayeb Alipourfard, Ali Esmaeily, Ali Negarestani, Implementation of GIS System to Mixture of Seismic Data and Radon Gas To Predict the Location of the Earthquake (Case Study: Kerman Province), 15th international conference of geophysics, International Institute of Earthquake Engineering and Seismology, Tehran, 2012 (in Persian)
- Tayeb Alipourfard, Ali Esmaeily, Land Surface Temperature Estimation From Thermal Bands of ETM+ Sensor, International Conference on Sensor and Models in Photogrammetry and Remote Sensing(SMPR2011),2011, Iran.

- Tayeb Alipourfard, Ali Esmaily, Land Surface Temperature Modeling Based on Improved Emissivity of NDVI Approach Case Study: Alashtar City, Journal of Paradise, Kerman Graduate University of Technology, Vol. 2, 2011
- Amin Hoseinpour, Tayeb Alipourfard, Ali Esmaily, Daily Discharge Modeling Using Neural Network and Geospatial Information System, Geomatics 2011, NCC, (in Persian)
- Nader Afshari, Davoud Rostami, Tayeb Alipourfard, Handbook of AutoCAD Civil3D 2009, Shahid Rajaee University Press, Tehran, Iran, 2009 (in Persian)