

REZA SAFARZADEH RAMHORMOZI

Ph.D. Student | Spatial Data Scientist

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Address: University of Calgary, Alberta, Canada.

EDUCATION AND TRAINING

May 2021 – currently

Ph. D. in Geospatial Information Systems
The University of Calgary, Calgary, Canada
GPA: 3.9 out of 4

Supervisor: Prof. Xin Wang

Sep 2014 – Sep 2017

M.Sc. in Geospatial Information Systems
K. N. Toosi University of Technology, Tehran, Iran
GPA: 17.25 out of 20

Supervisor: Prof. Mohammad Karimi

Thesis title: Optimization of Urban Land use allocation using meta-heuristic algorithms and spatial metrics

Sep 2009 - Sep 2013

B.Sc. in Geomatics Engineering
Iran University of Science and Technology, Tehran, Iran
GPA: 16 out of 20

SKILLS AND INTERESTS

Programming: Python, JavaScript, Java, MATLAB, HTML, CSS

GIS: ArcGIS, QGIS, GeoServer, ArcGIS Server, GDAL

Libraries: ESRI JS API, OpenLayers, ArcPy, NumPy, Geopandas, Shapely, NetworkX, osmnx, Scikitlearn, Geopy

Databases: MSSQLServer, MySQL, PostgreSQL, PostGIS

Other software: Auto CAD, Civil 3D, ENVI, IDRISI

Research Interests:

- Spatial Data Mining
- Machine Learning
- Deep Learning
- Geospatial Computing
- Spatial analysis, spatial statistics and visualization
- Transportation Planning
- Web-Based Mapping and GIS
- Spatial Decision Support Systems
- Spatial Data Infrastructure (SDI)

PUBLICATIONS

Safarzadeh R, Karimi M, and Alaei Moghadam S. Multi Objective Optimization of Urban Land Use Allocation Using Meta-Heuristic Algorithms and Spatial Metrics. Journal of Geomatics Science and Technology, JGST. 2018; 7 (3):189-212
(<http://jgst.issqe.ir/article-1-607-en.html>)

CONFERENCE PRESENTATION

Safarzadeh, R., Mozhdehi, A., Kalantari, S., Wany, Y., Sun, S., Wang, X. Multi-Task Graph Neural Network for Truck Speed Prediction Under Extreme Weather Conditions. 30th ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (ACM SIGSPATIAL - 2022). <https://doi.org/10.1145/3557915.3561029>

Safarzadeh, R., Karimi, M., & Alaei Moghadam, S. Optimization of Urban Land Use Allocation using Non-dominated Sorting Genetic Algorithm and Spatial Metrics. Paper presented in Persian at the 2nd National Conference on Geospatial Information Technology (NCGIT), Tehran, Iran (2017).

Safarzadeh, R & Karimi, M. Application of None Dominated Sorting Genetic Algorithm-II in Site Selection for Temporary Housing after Earthquakes in Tehran. Paper presented in Persian at the 3rd International Congress of Earth Sciences & Urban Development (ESUD), Tehran, Iran (2017).

Safarzadeh, R & Karimi, M. Application of Multi-Objective Particle Swarm Optimization Algorithm in Site Selection for Temporary Housing after Earthquakes in Tehran. Paper presented in Persian at the 2nd International Congress on Earth Science & Urban Development (ESUD), Tabriz, Iran (2016).

HONORS AND DISTINCTION

Awarded the scholarship of International Graduate Award 2021 – 2022.

Member of Esri Canada GIS Centers of Excellence, since 2021.

A member of Iran's National Elites Foundation, since January 2018.

Awarded as the best publication in The 2nd National Conference on Geospatial Information Technology (NCGIT), Tehran, Iran, Jan. 2017.

Executive board member of the 1st National Conference on Geospatial Information Technology, Tehran, Iran, Jan. 2016.

Member of Geomatics academic committee of Iran University of Science and Technology (IUST), 2010-2011.

WORK EXPERIENCE

- GIS Manager at "Parsa.co (FANAP ICT)" Company (July 2018 – May 2021).
 - Real-time route planning for ATM cash replenishment vehicles using *meta heuristic* algorithms, considering the four objectives of: the number of vehicles used, shortest path regarding distance and traffic, fuel consumption, and safeguarding that ATMs do not run out of cash.
 - Using *machine learning* techniques for road network traffic prediction problem
 - Using *machine learning* and *spatial trajectory mining* techniques to explore vehicle drivers' behaviour and fraud detection
 - *Spatial Analysis* and site selection for establishing new branches and ATMs
 - Implementation of *Web based GIS* application (GeoBI) for branches and ATMs
 - Using HTML, JavaScript (Spatial libraries: ESRI JavaScript API, OpenLayers), Python (Spatial libraries: GDAL, Shapely, PyProj, GeoPandas, NetworkX, osmnx, Scikitlearn)

(<http://www.parsa-cit.com/en> , <http://en.fanap.ir>)

- GIS Specialist at "Avayarsanat" Company (Feb 2017 - June 2018).
 - Implementation and development of web-based GIS applications.
 - Providing Iran's cities tourist map
 - Using ARCGIS software, QGIS, GeoServer, MapServer, PostgreSQL, ...

(<http://www.en.avayarsanat.ir>)

REFERENCES

Dr. Xin Wang, Professor, Geomatic Engineering Department, University of Calgary, Calgary, Canada. (xcwang@ucalgary.ca)

Dr. Mohammad Karimi, Professor, Faculty of Geomatics Engineering, K. N. Toosi University of Technology, Tehran, Iran. (mkarimi@mail.kntu.ac.ir)