

CURRICULUM VITAE



ARA TOOMANIAN

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December 2019

PERSONAL DATA

- Date of Birth: July 1977.
- Place of Birth: Tabriz, Iran.
- Nationality: Iranian
- Marital Status: Married.

EDUCATION AND DEGREES

- PhD: Department of Physical Geography and Ecosystem Analysis, GIS Centre, Lund University, Sweden, 2012, PhD in Geobiosphere Science with Specialization in Physical Geography and Ecosystems Analysis.
Thesis Title: Methods to improve and evaluate Spatial Data Infrastructures.
- MSc: JKIP Program, KN Toosi University & University of Twente (ITC), The Netherlands, 2007, MSc with **distinction**, Geoinformatics.
Thesis Title: Derivation and test of spatial rules for the prediction of efficiency of business branches
- BSc: Faculty of Computer Engineering, Tehran Azad University, 2001, Software Engineering.

CAREER

- Associate Professor, GIS & RS Department, Faculty of Geography, University of Tehran.
- Head of Department of GIS & RS, Faculty of Geography, University of Tehran.
- Deputy Head of Department of GIS & RS, Faculty of Geography, University of Tehran.
- Senior consultant of the Iranian National Post office.
- Representative of the Islamic Republic of Iran in the EMME Project, Erasmus + EU Program.
- Representative of Iran in the GeoNetC Project, Erasmus + EU Program.
- Director of GIS section of the Geoinformatics Institute of the University of Tehran.
- Senior consultant in GIS for Organization for Development, Renovation and Equipping Schools of I.R. Iran
- Senior Consultant in GIS for Bank Mellat Research and Planning Department.
- Working as a Researcher at Lund University.
- Director of GIS division at Bank Mellat Research and Planning Department.
- Researcher at School of Intelligent systems for different IT projects.
- Application Developer at Institute for Research in Fundamental Sciences (IPM).
- Hardware and Internet Support at Data Processing Iran Co.

LANGUAGE SKILLS

- Mother tongue: Armenian.
- English: Fluent.
- Persian: Fluent.
- Turkish, Swedish, Arabic: Basic.

EXPERIENCE

- ***Technical Abilities and work Experiences***

- Perfect public relationship
 - High ability in managing and teamwork leadership.
 - Geospatial Information System packages and software: ESRI products, City Modeling packages.
 - Spatial Databases as well as OO DBMS: SQL Server, Oracle, Postgresql, Access.
 - Open source packages in spatial environment: GeoServer, MapServer, OpenJUMP, JTS topology suit, uDig.
 - Data Mining Softwares: Data Engine, Fuzzy Tech, Sql Server Analysis Manager.
 - Programming skills: Java, Matlab, XML, GML, HTML, SLD, C++, Visual Basic, SQL.
 - Microsoft Packages: Office, Visio.
 - Raster and image manipulation software: Adobe Photoshop, FME,
 - Word Processing packages: Latex.
 - Operating Systems: WINDOWS, UNIX.
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- ***Teaching***
 - Teaching Experience for several universities in Iran (Tehran, Kharazmi, Alameh, Aras) in PhD, M.Sc. and B.Sc. levels.
 - Teaching experience at Lund University in: WebGIS, Open Source and GIS courses in Campus and distance.
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- ***Supervision***
 - Supervising 5PhD, 15MSc and BSc students at University of Tehran.
 - Supervising master and bachelor students at Lund University.

SCIENTIFIC INTERESTS

- ***Spatial Data Infrastructure***
 - Design, implementation, management and evaluation of SDI.
- ***Geospatial Information Science***
 - WebGIS
 - Spatial Web Services
 - Web Cartography
 - Modeling
 - OGC
- ***Strategic Planning***
 - Balanced Scorecard
- ***Knowledge Management***
 - Business Intelligent
 - BigData
 - Spatial/Data Mining
 - Spatial/Data Warehousing

Membership of professional bodies:

- Member of National teamwork of GNAF (Geocoded National Address File)
- Secretary of GIS/ RS Commission of Geography Planning in the Ministry of Science, Research and technology, Iran.
- Member of the Working Group for International Cooperation of the University of Tehran with EU Scientific and Higher Education Centers.
- Secretary of the Working Group on Soil and Agriculture, Iranian National Space Center.

SCHOLARSHIPS AND GRANTS

- Grant from European Union funding program “Erasmus Mundus External cooperation Window” (EM ECW lot7) for PhD Degree at Lund University, Sweden, 2008-2012.
- Top Student Award from ITC the Netherlands (University of Twente), distinction for the Master of Science.

Projects

International

- Education, Audiovisual and Culture Executive Agency (EACEA), European Commission-Erasmus+ Capacity Building, Environmental Management in Middle East/ EMME, 2018-2020.
<https://emme.ensg.eu/>
- Education, Audiovisual and Culture Executive Agency (EACEA), European Commission-Erasmus+ Capacity Building, International MSc Educational Program in Environmental Management and Modeling/ GeoNetC, 2016-2019.
<http://www.geonetc.net>

National

- Design and implement a National level standard for geocoded addresses, Iranian National Post Company, 2017.
- Groundwater quality survey for urban drinking water supply in disaster using GIS modeling, UT, 2014.
- Site selection for Bank Mellat, (Bank Branches, ATMs and other Access points), Bank Mellat, 2015.

PUBLICATIONS

RESEARCH PAPERS

2019

Decision Tree-Based Data Mining and Rule Induction for Identifying High Quality Groundwater Zones to Water Supply Management: a Novel Hybrid Use of Data Mining and GIS

Jeihouni, Mehrdad, [Toomanian Ara](#) & Mansourian, Ali (2019), Water Resource Management, Open Access, Published: 09 December 2019

Assessing the changes of mangrove ecosystem services value in the Pars Special Economic Energy Zone

Ashornejad Ghadir, Amiraslani Farshad, Kiavarz Moghaddam Majid, [Toomanian Ara](#) (2019). OCEAN & COASTAL MANAGEMENT, 179(1), 104838.

Spatio-temporal distribution of off-shore ships in the Pars Special Economic Energy Zone based on satellite imagery

Ashornejad Ghadir, Amiraslani Farshad, Kiavarz Moghaddam Majid, [Toomanian Ara](#) (2019), Journal of Environmental Resources Research, 7(1).

Validation of spatial multi criteria decision analysis results using public participation GIS

Narjes Mahmoodi-Vanoliya , Mohammadreza Jelokhani-Niaraki , [Toomanian Ara](#) (2019, In Press) Applied Geography. DOI: 10.1016/j.apgeog.2019.102061

Decision tree-based data mining and rule induction for identifying high quality groundwater zones to water supply management: A novel hybrid use of data mining and GIS

Jeihouni, M., [Toomanian, Ara](#), Mansourian Ali (revised submitted), Water Resources Management Journal.

2018

An integrated GIS-based Ordered Weighted averaging analysis for solar energy evaluation in Iran: Current conditions and future planning

Karimi Firouzjani Mohammad, Nematollahi Omid, Nematollahi Omid, Mejjani Naeim, Nadizadeh Shoorabeh Saman, Karimi Firoozjani Hamzeh, [Toomanian Ara](#) (2018)., RENEWABLE ENERGY, 136(136), 1-17.

Long-term groundwater balance and water quality monitoring in the eastern plains of Urmia Lake, Iran: A novel GIS based low cost approach.

Jeihouni, M., Toomanian Ara, Alavipanah, S.K., Hamzeh, S. & Pilesjo, P. (2018). JOURNAL OF AFRICAN EARTH SCIENCES, 147, 11-19.

Urban growth simulation based on CA- Markov and MCDA (in Persian)

Misagh Nooredin, [Toomanian Ara](#) (2018). Human Geography Research Quarterly, 50(1), 217-231.

Application of the Louise Model in Modeling Land Equilibrium Conflict with Land Approach (in Persian)

Omidipour Morteza, [Toomanian Ara](#), Faraji Sabokbar Hasanali (2018), Town and Country Planning, 9(2), 219-243.

Spatiotemporal modelling of urban quality of life (UQoL) using satellite images and GIS

Kazem Zadeh ZW, A., Darvishi Bolorani, A., Neysani Samany, N., [Toomanian Ara](#), & Pour Ahmad, A. (2018), International Journal of Remote Sensing, 39(13), 1-22.

2017

Quantitative assessment of Urmia Lake water using spaceborne multisensor data and 3D modeling

Jeihouni, M., [Toomanian, Ara](#), Alavipanah, S.K., Hamzeh, S. (2017). Environmental monitoring and assessment, 189 11, 572.

New Methods of Pruning Associative Classification Rules (Case Study: Rules Related to the Optimality of Location of Banks in Tehran City) (in Persian)

Ashor Nejad Ghadir, Ashouredjad Anis, [Toomanian Ara](#) (2017), Geospatial Engineering Journal, 8(2), 39-48.

2016

Presentation of a Geoportal Based on Semantic Recommender Systems (in Persian)

Rahmati Alireza, [Toomanian Ara](#) (2016), Journal of Geomatics Science And Technology, 6(1), 33-46.

2015

Presentation of geographic information and features on the web using open source technologies (in Persian)

[Toomanian Ara](#), Kazemzadeh Zu Ali (2015), Geospatial Engineering Journal, 6(3), 21-32.

A nonparametric approach and local entropy model to detecting spatially relationship between urban land use and crime (in Persian)

Rahmati Alireza, [Toomanian Ara](#), Teimuri Hossein (2015), Journal of Geography Law, 2(8), 1-24.

2014

Comparison of two fuzzy models for predicting water in Kermanshah (in Persian)

Bagheri Keivan, Amiraslani Farshad, [Toomanian Ara](#), Hamzeh Saeid (2014), Geography and urban planning researches, 2(4), 465.

2013

Automatic integration of spatial data in viewing services

[Toomanian Ara](#), Harrie Lars, Mansourian Ali, Pilsejo Petter (2013), JOURNAL OF SPATIAL INFORMATION SCIENCE, 0(6), 43-58.

2012

Automatic symbolization methods for geoportals

[Toomanian Ara](#), Harrie, L., Olsson, P., (2012), the Cartographic Journal, 49(2), pp. 153-163.

2011

Using Balanced Scorecard for Evaluation of Spatial Data Infrastructures: a Swedish Case Study in accordance with INSPIRE

[Toomanian Ara](#), Mansourian, A., Harrie, L., Rydén, A., (2011), International Journal of Spatial Data Infrastructures Research, Vol. 6, 311-343.

2010

Expert System to Support Functionality of Clearinghouse Services

Mansourian, A., Omid, E., [Toomanian Ara](#), Harrie, L., (2010), Computers, Environment and Urban Systems, 35(2), pp159-172.

2009

An Integrated Framework for the Implementation and Continuous Improvement of Spatial Data Infrastructures

[Toomanian Ara](#), Mansourian, A. (2009), GSDI 11, book chapter in SDI Convergence. Research, Emerging Trends, and Critical Assessment. B. van Loenen, J.W.J.Besemer, J.A. Zevenbergen(Editors). Nederlandse Commissie voor Geodesie, Netherlands Geodetic Commission 48, pp 161-173, 2009.

CONFERENCE PAPERS

- Software Robots in Bank Mellat, Lucas, C., Zeighami, S., Mehrabinezhad, A., Toomanian, A., Nercissians. E., the World Internet and Electronic Cities Conference May 1-3 2001 Kish, Iran.
- Derivation and test of spatial rules for the prediction of the efficiency of business branches, Toomanian, A., de By, R., Mansourian A., Map Asia 2009, Singapore.
- An Integrated Framework for the Implementation and Continuous Improvement of Spatial Data Infrastructures, Toomanian, A., Mansourian, A., GSDI 11, 2009, the Netherlands.
- Integration of rendering technologies and visualization techniques to improve 3D Mobile GIS applications, M. Farnaghi, A. Mansourian, A. Toomanian, Proceedings for ISPRS WG II/2+3+4 and Cost Workshop on Quality, Scale & Analysis Aspects of Urban City Models, Lund, Sweden, 3-4 December, 2009. ISPRS XXXVIII-2/W11.
- Cartographic enhanced geoportals, Toomanian, A., L. Harrie and P.-O. Olsson, Proceedings of ICC, Paris, 3-8 July 2011.
- Investigation of road construction on Naiband conservation site, Ashournejad Ghadir, Amiraslani Farshad, Kiavarz Moghaddam Majid, Toomanian Ara (2018), The first national conference on sustainable development of Persian Gulf, 11-12 December.
- Planning for Mangrove forests in Pars economic zone (in Persian), Ashournejad Ghadir, Amiraslani Farshad, Kiavarz Moghaddam Majid, Toomanian Ara (2018), National 25th Geomatic Conference, 21-24 November.
- Towards Spatial Knowledge Infrastructure (SKI): Technological Understanding Omidipour Morteza, Toomanian Ara (2018), Agile 2018, 12-15 June, Sweden.
- Identification of parameters on Tehran air aerosols (in Persian) Ghorbani Mahdi, Amiraslani Farshad, Toomanian Ara (2018), National Conference of Air and Sound Pollution, 23-24 January.
- Optimization of disposal of the waste using Non-dominated Sorting Genetic Algorithm: A Case Study in Tehran, Bagheri Keyvan, Rezaii Mahmood, Toomanian Ara (2017), the 4th International Conference on the Environmental Planning and Management, 23-24 May, Tehran, Iran.
- SDI assessment role in defense (in Persian), Madadi Saeed, Toomanian Ara, Akhavan Amir Naser (2017), Geomatics 96, 15-16 May, Tehran, Iran.
- SVM parameter selection with Genetics Algorithm for LIDAR data classification Hajeb Mohammad, Toomanian Ara, Azarakhsh Zeinab, Karimi Farshad (2017), Second National Conference of Spatial Information Eng., 18 January.
- Locating Temporary Accommodation Shelters to Decrease Human Casualties Due Military Attacks (Air and missile strikes) Case Study: Ahvaz city (in Persian), Toomanian Ara, Omidipour Morteza, Moosavi S.m.m., Moeinmehr Atena, Moeinmehr Mohammad (2015), 1st International Conference on Human, Architecture, Civil Engineering and City, ICOHACC 2015, 15 June, Tabriz, Iran.
- Cartographic Standard Necessity in SDI Development, Rezaii Ameneh, Toomanian Ara (2015), National Conference on Guilan Province Development, 29 April, Rasht, Iran.

- MCDM_GIS combined application utilization to plan rural services, case study: Andika Center district (in Persian), Bastami Nia Amir, Toomanian Ara, Omidipour Morteza, Sistani Sara (2015), First National Conference on sustainable development in Geography and planning, architecture and urban, 3 January, Tehran, Iran.

○ *Courses Attended*

- The Third Nordic Summer School in GIS2008, Gavle, Sweden.
- Seminar PhD course: City Models – storage, distribution and visualization.
- The Forth Nordic Summer School in GIS2009, Gavle, Sweden.
- SDI Fundamentals, Modeling, applications, Literature course.
- Literature Course: Qualitative and Quantitative methods, Exploratory Analysis of Spatial and Temporal Data, Spatial databases, Internet GIS.
- The Fifth Nordic Summer School in GIS2010, Gavle, Sweden.
- Scientific writing course.

Links to the websites:

- University of Tehran, Faculty of Geography
<https://profile.ut.ac.ir/en/~a.toomanian>
- Researchgate profile
https://www.researchgate.net/profile/Ara_Toomanian
- LinkedIn Profile
<https://ir.linkedin.com/in/ara-toomanian-57251418>
- Joint meeting in the Faculty of Geography with a representative of Lund University, Sweden on the Erasmus+ International Joint Project
<https://geography.ut.ac.ir/en/-/joint-meeting-in-the-faculty-of-geography-with-a-representative-of-lund-university-sweden-on-the-erasmus-international-joint-project>
- Meeting with the Armenian Ambassador in Iran
<http://iran.mfa.am/en/news/item/2018/09/19/armenianscholars/>
- Meeting with different organizations for the National GNAF project (In Persian)
<http://www.post.ir/fa-IR/yazd.post/3642/news/view/54340/115536/Staging?init>