

CURRICULUM VITAE
MORTEZA KARIMZADEH
ASSISTANT PROFESSOR IN GEOGRAPHY, GEOSPATIAL DATA SCIENTIST
UNIVERSITY OF COLORADO BOULDER

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EDUCATION

- Doctor of Philosophy, Geography (Geographic Information Science), Penn State, USA, May 2018
Adviser: Dr. Alan MacEachren
Dissertation: *Geo-Annotation and Geoparsing of Textual Documents*
- Master of Science, Geographic Information Systems Engineering, K.N. Toosi University of Technology, Tehran, Iran, Sept. 2011
Thesis: *Implementation of an Interoperable Geoprocessing Service using OGC and W3C specifications*
- Bachelor of Science, Surveying (Geomatics) Engineering, Shahid Rajaei Teacher Training University (SRTTU), Tehran, Iran, Sept. 2008

APPOINTMENTS

- **Assistant Professor**, Department of Geography, University of Colorado Boulder, Aug. 2019–present.
- **Postdoctoral Researcher**, Purdue University Visual Analytics Center (Director: Prof. David Ebert), Department of Electrical and Computer Engineering, Purdue University, July 2018–Aug. 2019.
 - Responsibilities: Assisting in grant proposal writing, mentoring graduate and undergraduate students for research, conduct research in visual analytics in the two general areas of sustainable viticulture and situational awareness for crisis response.
- **Spatial Data Scientist | GIS Developer**, 3SG+, Columbus, Ohio, May 2018–July 2018.
 - Responsibilities: GIS Project Management, full-stack development.
- **Lecturer in GIScience**, Department of Geography, Ohio State University, Aug. 2017–Aug. 2018.
 - Responsibilities: *Spatial Analysis (spatial statistics - senior/graduate level)*, and *GeoVisualization (senior/graduate level)*,
- **Research/Teaching Assistant**, Department of Geography/Department of Information Sciences and Technology/Institute for Natural Gas Research (INGaR)/John A. Dutton e-Education Institute MGIS program, Pennsylvania State University, Aug. 2012–Jun. 2017
 - Responsibilities: *Teaching Assistant (Dynamic Cartographic Representation)*, *Online Course Developer (Open Web Mapping)*, *Instructor (GIS)*, *Research Assistant*, *Developer (notably GeoAnnotator, and GeoTxt, a web API for geoparsing text, API available at <http://geotxt.org/>)*.

- **GIS Manager/Engineer**, Sepehr Geomatics Engineering Co., Tehran, Iran, Aug. 2010–May 2012.
 - Responsibilities: GIS desktop development, Microsoft SQL Server and ArcSDE-based enterprise geodatabase design (logical and physical modelling) and implementation, ArcObjects customization and ArcGIS Server/client service support.
- **Land Surveying Engineer**, Bonyan Naghsheh Negar Consulting Engineers Co., Tehran, Iran, Oct. 2007–Aug. 2008.
 - Responsibilities: Collecting and post-processing differential GPS observations, geodetic network statistical adjustment, spatial feature collection, construction positioning execution (Kinetic GPS and total-stations theodolite – AutoCAD Civil 3D, MicroStation).

PEER-REVIEWED JOURNAL ARTICLES

- Snyder, L., Lin, Y., Karimzadeh, M., Goldwasser, D., & Ebert, D. S. (2020). Interactive Learning for Identifying Relevant Tweets to Support Real-time Situational Awareness. *IEEE Transactions on Visualization and Computer Graphics*.
- Khayat, M., Karimzadeh, M., Zhao, J., Ebert, D. S. (2020). VASSL: A Visual Analytics Toolkit for Social Spambot Labeling. *IEEE Transactions on Visualization and Computer Graphics*.
- Zhao, J., Karimzadeh, M., Snyder, S., Surakitbanharn, C., Qian, C., Ebert, D. S. (2020). MetricsVis: A Visual Analytics System for Evaluating Employee Performance in Public Safety Agencies. *IEEE Transactions on Visualization and Computer Graphics*.
- Khayat, M., Karimzadeh, M., Ebert, D. S., Ghafoor, A. (2020). The Validity, Generalizability and Feasibility of Summative Evaluation Methods in Visual Analytics. *IEEE Transactions on Visualization and Computer Graphics*.
- Yau, C., Karimzadeh, M., Surakitbanharn, C., Elmqvist, N., Ebert, D. (2019). Bridging the Data Analysis Communication Gap Utilizing a Three-Component Summarized Line Graph. *Computer Graphics Forum*.
- Karimzadeh, M., MacEachren, A.M. (2019). GeoAnnotator: A Collaborative Semi-Automatic Platform for Geo-Annotation. *The ISPRS International Journal of Geo-Information special issue on Human-Centered Geovisual Analytics and Visuospatial Display Design*.
- Karimzadeh, M., Pezanowski, S., Wallgrün, J. O., MacEachren, A. M., Wallgrün, J. O. (2019). GeoTxt: A scalable geoparsing system for unstructured text geolocation. *Transactions in GIS*, 23(1), 118–136.
- Wallgrün, J.O., Karimzadeh, M., Pezanowski, S., MacEachren, A.M. (2018). GeoCorpora: Building a Corpus to Test and Train Microblog Geoparsers. *International Journal of Geographic Information Science*, Volume 32, Issue 1, 1-29.

PEER-REVIEWED CONFERENCE PROCEEDING ARTICLES

- Zhao, J., Karimzadeh, M., Xu, H., Malik, A., Afzal, S., Wang, G., Elmqvist, E., & Ebert, D. (in press, 2020). Route Packing: Geospatially-Accurate Visualization of Route Networks. *In Proceedings of the 53rd Hawaii International Conference on System Sciences*.
- Snyder, L. S., Karimzadeh, M., Chen, R., & Ebert, D. S. (2019). City-level Geolocation of Tweets for Real-time Visual Analytics. *GeoAI 2019: Proceedings of the 3rd ACM SIGSPATIAL International Workshop on AI for Geographic Knowledge Discovery*, 85–88.
- Zhao, J., Karimzadeh, M., Masjedi, A., Wang, T., Zhang, X., Crawford, M. M., & Ebert, D. S. (2019). Interactive Feature Selection and Exploration of Regression Models for Hyperspectral Images. *IEEE VIS 2019 Conference*.

- Snyder, L. S., Karimzadeh, M., Stober, C., & Ebert, D. S. (2019). *Situational Awareness Enhanced through Social Media Analytics: A Survey of First Responders*. IEEE International HST Symposium, Woburn, MA.
- Karimzadeh, M. (2019). Social Media for Sensing: Do Tweets Represent Events at Geo-Tagged Locations? *Abstracts of the International Cartographic Association*, 1, 160.
- Karimzadeh, M. (2016). Performance Evaluation Measures for Toponym Resolution. *Proceedings of the 10th Workshop on Geographic Information Retrieval*, Ross S. Purves and Christopher B. Jones (Eds.) San Francisco, CA. ACM, New York, NY, USA.
- Wallgrün, J.O., Klippel, A., and Karimzadeh, M. (2015). Towards Contextualized Models of Spatial Relations. *Proceedings of the 9th Workshop on Geographic Information Retrieval*, Ross S. Purves and Christopher B. Jones (Eds.) Paris, France. ACM, New York, NY, USA.
- Wallgrün, J.O., Hardisty, F., MacEachren, A.M., Karimzadeh, M., Ju, Y., Pezanowski, S. (2014). Construction and First Analysis of a Corpus for the Evaluation and Training of Microblog/Twitter Geoparsers, *Proceedings of the 8th Workshop on Geographic Information Retrieval*. Dallas, Texas.
- Karimzadeh, M., Huang, W., Banerjee, S., Wallgrün, J.O., Hardisty, F., Pezanowski, S., Mitra, P., MacEachren, A.M. (2013). GeoTxt: A web API to leverage place references in text. *Proceedings of the 7th Workshop on Geographic Information Retrieval*. Orlando, Florida: ACM, 72-73.

CONFERENCE PRESENTATIONS

- Karimzadeh, M., Snyder, L., Lin, Y., Ebert, D. (2019). Interactive Deep Learning for Identifying Relevant Social Media Posts in Crisis Monitoring. *GeoAI and Deep Learning Symposium: Deep Learning in Geography*. AAG annual meeting, Washington, DC.
- Jhanwar, G., Karimzadeh, M., Ebert, D., Yau, C., Tadesse, K. (2019). Irrigation Management Using Deep Learning of Soil Moisture. *GeoAI and Deep Learning Symposium: Deep Learning in Geography*. AAG annual meeting, Washington, DC.
- Karimzadeh, M., MacEachren, A. M., Pezanowski, S. (2018). Evaluating GeoTxt, a Scalable Geoparser for Toponym Recognition and Resolution. *Artificial Intelligence and Deep Learning Symposium: Geospatial Semantics and Geo-Text Data Analytics*. AAG annual meeting, New Orleans, LA.
- Karimzadeh, M. (2017). Geolocation of Textual Documents: a GeoVisual Approach. *North American Cartographic Information Society (NACIS) annual meeting*. Montreal, Canada.
- Wallgrün, J.O., Hardisty, F., MacEachren, A. M., Karimzadeh, M., Ju, Y., Pezanowski, S. (2014). Construction of a Corpus for the Evaluation and Training of Microblog/Twitter Geoparsers. *US Army Corps of Engineers Site Visit*. GeoVISTA Center, Penn State, PA.
- Karimzadeh, M. (2014). Place Names for Geographic Information Retrieval: Current Status and Future Data Requirements. *Session on Geospatial Cyberinfrastructure to Support Sustained Polar and Environmental Sciences*. AAG annual meeting, Tampa, FL.
- Karimzadeh, M., Huang, W., Banerjee, S., Wallgrün, J.O., Hardisty, F., Pezanowski, S., Mitra P., MacEachren, A.M. (2013). GeoTxt API for Geoparsing Text: ‘tunable’ entity extraction and geolocation for microblogs and other sources. *VACCINE site visit*. Penn State, PA.
- Karimzadeh, M. (2013). GeoCollaboration in Global Environmental Change Research, *AAG annual Meeting*, Los Angeles, CA.
- Karimzadeh, M. (2013). GeoTxt: Current Status, Progress Report, Future Directions. *US Army Corps of Engineers Site Visit*, GeoVISTA Center, Penn State, PA.

- Karimzadeh, M. (2013). Participatory Crisis Management: GeoCollaboration at Three Levels. *UCGIS Symposium, Collaboration Across Communities: GIScience 2.0 and Beyond*. Washington, DC.

RESEARCH & TECHNICAL WHITE PAPERS

- Karimzadeh, M., Snyder, L., Ebert, D. (2019) Geovisual Analytics and Interactive Machine Learning for Situational Awareness. *US National Report to the International Cartographic Association, ICC 2019, Tokyo, Japan*.
- Ebert, D., Yau, C., Valero, A., Karimzadeh, M., Guo, J., Asimont, L., Butzke, C. (2018). Discussions on Increasing the Sustainability of Perennial Crops through Informed Precision Decision-Making. *Purdue VACCINE workshop reports*. <https://docs.lib.purdue.edu/purvacwr/1>
- Schwartz, B., Scarborough, J., Karimzadeh, M., Aher, P., Ditizio, A. M., Alger, M. (2017). Economic and Spatial Analysis for Gas to Liquid (GTL) Plant Feasibility Study, *Report to Synfuels Americas*. The Institute for Natural Gas Research, Penn State.
- Savelyev, A., MacEachren, A.M., Pezanowski, S., Karimzadeh, M., Luo, W., Nelson, J., Robinson, A.C. (2014). Report on New Methods for Representing and Interacting with Qualitative Geographic Information, Stage 2: Task Group 4 Message-Focused Use Case. *Report to US Army Engineer Research and Development Center (ERDC) Geospatial Research Laboratory*. GeoVISTA Center, Penn State.

TEACHING, MENTORING AND COURSE DEVELOPMENT

- **Instructor of record**, GEOG 3023 (4) Statistics and Geographic Data. CU Boulder Geography, Aug 2019 – present.
- **Graduate Research Supervisor**, Purdue University Visual Analytics Center (PURVAC), Jul. 2018 – Aug. 2019.
- **Undergraduate Research Advisor**, Purdue University Discovery Park Undergraduate Research Internship Program (DURI), Jul. 2018–Aug. 2019.
- **Instructor**, *Spatial Data Analysis* (GEOG 5100 – senior/graduate level), *Geovisualization* (GEOG 5201 – senior/graduate level), Dept. of Geography, Ohio State University, Fall 2017–Spring 2018.
- **Teaching Assistant**, *Dynamic Cartographic Representation*, Dept. of Geography, Penn State, Fall 2016.
- **Instructor**, *Geographic Information Systems (GIS)*, Dept. of Geography, Penn State, Fall 2015.
- **Undergraduate Research Supervisor**, Undergraduate Research Opportunity Connections Program, *Automatic Classification of Academic Papers based on Geographic Focus*, Dept. of Geography, Penn State, Fall 2014–Fall 2015.
- **Course outline and content evaluator, editor, and developer**, *Open Web Mapping*, MGIS program, Penn State’s John A. Dutton e-Education Institute, Fall 2012.
- **Instructor and course developer**, *Computer Cartography and Desktop GIS (Introduction to GIS)* (course developer and instructor); *Precise GPS Geodetic Surveying* (course developer and instructor); *Geodetic Astronomy* (instructor), Azad University of Shahr-e-Rey, Tehran, Iran, Sept. 2011–Jun. 2012.
- **Teaching Assistant**, *GPS and its use in GIS*, Azad University of Shahr-e-Rey, Tehran, Iran, Jan. 2010–Jan. 2011.
- **Private Tutor**, *GIS and Enterprise Geodatabase*, commercial startups –Tehran, Iran, 2009–2012.

HONORS, AWARDS AND GRANTS

- The U.S. National Committee (USNC) to the International Cartographic Association travel award to present at the 29th International Cartographic Conference in Tokyo, Japan, Jul. 2019 (\$2000).
- ICC2019 Travel Grant to present at the 29th International Cartographic Conference in Tokyo, Japan, Jul. 2019 (100,000 JPY ~ \$910).
- Doctor of Philosophy Paper E. Willard Miller Award in Geography 2017, 2nd place, Penn State, Apr. 2017 (\$400).
- NSF Travel Award to attend the 24th SIGSPATIAL Conference in San Francisco, CA, Nov. 2016 (\$1000).
- Cartographic E. Willard Miler Award in Geography 2016, 1st place best cartographic/software entry, Department of Geography, Penn State, Apr 2016 (\$600).
- FOSS4G (Free and Open Source Software for Geospatial) North America Scholarship Award, 2016 (600).
- USGIF Doctoral Scholarship grant (the United States Geospatial Intelligence Foundation), 2015 (\$5000).
- NSF Travel Award to attend the 27th International Cartographic Conference (ICC) Conference in Rio, Brazil, Aug. 2015 (\$1800 - did not use/attend due to visa travel restrictions).
- NSF Travel Award to attend the 22th SIGSPATIAL 2014 Conference in Dallas, TX, Nov. 2014 (\$1000).
- North American Cartographic Information Society (NACIS) travel award to attend the NACIS annual meeting in Pittsburg, PA, Oct. 2014.
- Doctor of Philosophy Paper E. Willard Miller Award in Geography 2014, 2nd place, Penn State, Apr. 2014 (\$400).
- Ruby S. Miller Endowment Fund in Geography, Academic Enrichment Support travel award from Penn State dept. of Geography to attend the International conference on Social Computing, Behavioral Modeling and Prediction, Apr. 2014.
- NSF Travel Award to attend the 7th Conference on Web Reasoning and Rule Systems, Mannheim, Germany, Jul. 2013.
- Registration Scholarship from GeoDecisions Co. to attend the 2013 Pennsylvania GIS Conference, State College, PA, Jun. 2013.
- C. Gregory Knight Academic Enrichment Support travel award from the Department of Geography, Penn State, to attend the UCGIS symposium, Washington D.C., May. 2013.

PEER REVIEWER OF MANUSCRIPTS FOR

- Journal of Geovisualization and Spatial Analysis, Springer
- Transactions in GIS, Wiley
- IEEE Access
- ISPRS International Journal of Geo-Information, MDPI
- The Professional Geographer, Taylor & Francis

PROFESSIONAL MEMBERSHIP

- American Association of Geographers (AAG)
- North American Cartographic Information Society (NACIS)

- Cartography and Geographic Information Society (CaGIS)
- ACM SIGSPATIAL
- IEEE Technical Committee on Visualization and Graphics (VGTC)
- National Center for Faculty Development and Diversity

PROFESSIONAL SERVICE

- Colloquium Committee, Department of Geography, University of Colorado Boulder, August 2019-present.
- Elected Delegate and Executive Board Member, Penn State Graduate and Professional Student Association, May 2014 – May 2015.
- Elected student representative to the Graduate Council, Graduate School, Penn State, May 2014 – Oct. 2016.
- Student Liaison to the Penn State Health Insurance Advisory Committee and Board, Appointed Aug. 2014 – Oct. 2016.
- Student volunteer organizer, ISCRAM conference, Penn State, May 2014.
- Geodetic undergraduate student science journal editor and graphic designer, Geomatics department, SRTTU University, 2007-2008.