AMIN VAHEDIAN KHEZERLOU

Barsema Hall 328P, Northern Illinois University. ⋄ DeKalb, IL 60115

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CURRENT AND PAST POSITIONS

Assistant Professor *January 2022 - present*
Department of Operations Management and Information Systems
Northern Illinois University, DeKalb, Illinois, USA

Assistant Professor *August 2019 - December 2021*
Department of Information Technology and Supply Chain Management,
University of Wisconsin-Whitewater, Whitewater, Wisconsin, USA

EDUCATION

The University of Iowa, Iowa City, Iowa, USA
Ph.D. in Business Analytics *2019*

K.N. Toosi University of Technology, Tehran, Iran
M.S. in Information Technology *2013*

University of Tabriz, Tabriz, East Azerbaijan, Iran
B.E. in Information Technology *2011*

RESEARCH INTERESTS

Machine Learning, Interpretable Machine Learning, Bayes Optimal Classifier, Data Mining, Spatial Data Mining, Deep Learning Applications, Big Data.

PUBLICATIONS

Johnson, N., Prasad, S., **Vahedian, A.**, Altay, N., Jain, A. (2022, In Press). Modeling Rag-picker Productivity at the Bottom of the Pyramid the Use of Artificial Neural Networks (ANN). International Journal of Operations and Production Management.

An, B., **Vahedian, A.**, Zhou, X., Street, W. N., Li, Y. (2022). HintNet: Hierarchical Knowledge Transfer Networks for Traffic Accident Forecasting on Heterogeneous Spatio-Temporal Data. (Accepted) SIAM International Conference on Data Mining (SDM22), April 28 - 30, 2022, Alexandria, Virginia, USA.

Vahedian, A., Zhou, X. (2021). Precise Bayes Classifier: Summary of Results. (Accepted) 21st IEEE International Conference on Data Mining (IEEE ICDM 2021), December 7-10, 2021, Auckland, New Zealand. *Acceptance Rate: 9.9%.*

Vahedian, A., Zhou, X., Li, X., Street, W. N., Li, Y. (2021). DILSA+: Predicting Urban Dispersal Events Through Deep Survival Analysis with Enhanced Urban Features. ACM Transactions on Intelligent Systems and Technology (ACM TIST), 12(4), 1-25.

Vahedian, A., Zhou, X., Tong, L., Street, W.N. & Li, Y. (2019). Predicting Urban Dispersal Events: A Two-Stage Framework through Deep Survival Analysis on Mobility Data. In 2019 AAAI Conference on Artificial Intelligence (AAAI'19), January 27, 2019, Honolulu, HI, USA.

Vahedian, A., Zhou, X., Tong, L., Li, Y., & Luo, J. (2019). Forecasting Gathering Events through Trajectory Destination Prediction: a Dynamic Hybrid Model. IEEE Transactions on Knowledge and Data Engineering (IEEE TKDE).

Khezerlou, A. V., Zhou, X., Li, L., Shafiq, Z., Liu, A. X., & Zhang, F. (2017). A traffic flow approach to early detection of gathering events: Comprehensive results. ACM Transactions on Intelligent Systems and Technology (ACM TIST), 8(6), 74.

Zhou, X., Rong, H., Yang, C., Zhang, Q., **Khezerlou, A.V.**, Zheng, H., Shafiq, Z., Liu, A.X. (2018). Optimizing Taxi Driver Profit Efficiency: A Spatial Network-based Markov Decision Process Approach. IEEE Transactions on Big Data (IEEE TBD).

Vahedian, A., Zhou, X., Tong, L., Li, Y., & Luo, J. (2017, November). Forecasting gathering events through continuous destination prediction on big trajectory data. In Proceedings of the 25th ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (p. 34). ACM.

Zhou, X., **Khezerlou, A. V.**, Liu, A., Shafiq, Z., & Zhang, F. (2016, October). A traffic flow approach to early detection of gathering events. In Proceedings of the 24th ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (p. 4). ACM.

Khezerlou, A. V., & Alizadeh, S. (2014). A New Model for Discovering Process Trees from Event Logs. Applied intelligence, 41(3), 725-735.

PEER-REVIEWED WORKSHOP ARTICLES

Xiong, H., **Vahedian, A.**, Zhou, X., Li, Y., & Luo, J. (2018). Predicting Traffic Congestion Propagation Patterns: A Propagation Graph Approach. In 11th ACM SIGSPATIAL International Workshop on Computational Transportation Science (IWCTS'18), November 6, 2018, Seattle, WA, USA.

Chiu, J., **Vahedian, A.** & Zhou, X. (2018). Understanding Business Location Choice Pattern: A Co-Location Analysis on Urban POI Data. In 2nd INFORMS Workshop on Data Science, November 3, 2018, Phoenix, AZ, USA.

Vahedian, A., Li, X., Xiong, H., Zhou, X., Colbert, A. (Oct. 2019). Motivated or Exhausted: A Data-Driven Study of Taxi Driver Behavior Following Traffic Congestions. 3rd INFORMS Workshop on Data Science. Seattle, Washington, USA.

ARTICLES UNDER REVIEW AND WORKING PAPERS

Vahedian, A., Zhou, X., Colbert, A. (Target submission: Spring 2022). Non-Parametric Bayesian Learning: Approaching the Limits of Prediction Accuracy. IEEE Transactions on Knowledge and Data Engineering.

An, B., **Vahedian, A.**, Zhou, X., Street, W. N., Li, Y. Traffic Accident Forecasting on Heterogeneous Spatio-Temporal Data. (Target Submission: Spring 2022) IEEE Transactions on Knowledge and Data Engineering.

Vahedian, A., Zhou, X., Colbert, A. (Target submission: Summer 2022). Understanding the Effects of Traffic Congestion on Taxi Driver Work Motivation through Big Trajectory Data Analytics. ACM Transactions on Management Information Systems.

Johnson, N., Prasad, S., Zakaria, R, **Vahedian, A.**, Altay, N. (Submitted December 2022). Capturing Non-Linear Interactions: A Synergistic Approach in Helping Vulnerable Communities. (Target Submission: Spring 2022) International Journal of Forecasting.

PRESENTATIONS

(2021, December) "*Precise Bayes Classifier: Summary of Results*". 2021 IEEE International Conference on Data Mining (ICDM'21), December 7-10, 2021, Auckland, New Zealand.

(2021, December) "*Understanding the Effects of Traffic Congestion on Taxi Driver Work Motivation through Big Trajectory Data Analytics*". 2021 Conference on Artificial Intelligence and Machine Learning, December 2-4, 2021, Fox School of Business, Temple University, Philadelphia, PA, USA.

(2019, January) "*Predicting Urban Dispersal Events: A Two-Stage Framework through Deep Survival Analysis on Mobility Data*". 2019 AAAI Conference on Artificial Intelligence (AAAI'19), January 27, 2019, Honolulu, HI, USA.

(2018, November) "*Predicting Urban Dispersal Events: A Two-Stage Framework through Deep Survival Analysis on Mobility Data*". INFORMS Annual Meeting 2018, Institute for Operations Research and the Management Sciences, Phoenix, Arizona.

(2017, November) "*Forecasting Gathering Events through Continuous Destination Prediction on Big Trajectory Data*". 25th International Conference on Advances in Geographic Information Systems (SIGSPATIAL GIS'17), ACM, Los Angeles, California.

(2017, October) "*Forecasting Gathering Events through Continuous Destination Prediction on Big Trajectory Data*". INFORMS Annual Meeting 2017, Institute for Operations Research and the Management Sciences, Houston, Texas.

(2016, November) "*A Traffic Flow Approach to Early Detection of Gathering Events*". INFORMS Annual Meeting 2016, Institute for Operations Research and the Management Sciences, Nashville, Tennessee.

(2015, November) "*A Data Mining Approach to the Discovery of Emerging Hotspot Patterns in Urban Data*". INFORMS Annual Meeting 2015, Institute for Operations Research and the Management Sciences, Philadelphia, Pennsylvania.

PROFESSIONAL SERVICE

Reviewer
- IEEE Transactions on Knowledge and Data Engineering
- ACM SIGSPATIAL (2021)
- International Workshop on Urban Computing (ACM SIGKDD UrbComp 2020, 2021)
- Frontiers of Big Data
- ACM KDD (2020)
- ACM CIKM (2020)
- ACM Transactions on Data Science
- IEEE Transactions on Mobile Computing
- IEEE Transactions on Circuits and Systems for Video Technology
- IEEE Access
- Geoinformatica
- Informatica
- International Journal of Business Information Systems
- AAAI (2019)
- Decision Sciences.
- Big Data and Cognitive Computing
- IEEE ICDM 2019
- International Conference on Information Systems (ICIS 2019)
- Workshop on Information Technologies and Systems (WITS 2019)
- INFORMS Workshop on Data Science (2019)
- International Symposium on Spatial and Temporal Databases (SSTD'19)
- INFORMS Workshop on Data Science (2018)
- Entropy.

- ACM SIGSPATIAL'18
- IEEE ICDM (2018)
- ACM CIKM (2018)
- ACM SIGSPATIAL'17
- IEEE ICDM (2017)
- ICTAI (2017)
- ACM CIKM (2017)

Co-Adviser - Doctor of Business Administration Program - College of Business and Economics, UW-Whitewater. *2019-present*

Committee Membership - Best Poster Award committee. *ACM SIGSPATIAL 2020*

Committee Membership - Assurance of Learning Committee (AACSB accreditation assurance). *2019-present*

Curriculum Development - Bachelor of Business Analytics, Master of Data Analytics, College of Business and Economics, UW-Whitewater *2019*

Social Media Director of INFORMS Student Chapter at the University of Iowa. *2016-2017*
Organizer of Data Mining at Iowa Group (DMIG), University of Iowa. *2016-2017*

AWARDS AND HONORS

Ballard & Seashore Dissertation Year Fellowship.
Graduate College, University of Iowa. *2018*

Post-Comprehensive Research Fellowship.
Graduate College, University of Iowa. *2017*

Summer Research Fellowship.
Graduate College, University of Iowa. *2018*

NSF Student Travel Award.
National Science Foundation, USA. *2017*

NSF Student Travel Award.
National Science Foundation, USA. *2016*

AAAI Student Travel Award.
Association for Advancement of Artificial Intelligence, USA. *2019*

Student Travel Award..
Graduate College, University of Iowa. *2019*

Tuition Scholarship for Graduate Students.
Ministry of Science, Research and Technology, Iran. *2011*

Tuition Scholarship for Undergraduate Students.
Ministry of Science, Research and Technology, Iran. *2006*

TEACHING AND MENTORING EXPERIENCE

Business Systems Analysis and Design	*Graduate Course, Spring 22*
Social Networks Analytics	*Graduate Course, Spring 22*
Programming for Analytics	*Online Graduate course, Fall 21*
Topics in Information Technology and Management	*Online, Graduate course, Spring 20*

Introduction to Project Management   *Online, In-Person, Graduate course, Spring 20, Fall 20*
Introduction to Information Systems   *Fall 19, Spring 21*
Business Analysis   *Fall 19, Spring 20, Fall 20, Spring 21*
Head Teaching Assistant, Information Systems   *Fall 15 - Fall 16*
Teaching Assistant, Information Systems   *Spring 15*
Graduate Mentor, Undergraduate Thesis in Business Analytics   *Spring 18 - Fall 18*
Graduate Mentor, Secondary Student Training Program   *Summer 17 and 18*