Hamid Karimi

CONTACT INFORMATION	Department of Computer Science Utah State University Logan, Utah 84322 E-mail: hamid.karimi@usu.edu	Homepage: https://dsa.cs.usu.edu LinkedIn: http://www.linkedin.com/in/hamidkariminetwork GitHub: http://github.com/hamidkarimi [Google Scholar]

POSITIONS

Assistant Professor, Utah State University   Aug 2021- Present
Department of Computer Science

EDUCATION

Michigan State University

Doctor of Philosophy (Ph.D.) in Computer Science and Engineering   Aug 2015 - June 2021
- Advisor: Dr. Jiliang Tang
- Dissertation: Teachers in Social Media: A Data Science Perspective

Research areas: Data Mining, Machine Learning, Social Network Analysis

Urmia University

Master of Science (M.S.) in Information Technology   Jan 2010 - Sep 2012

University of Isfahan
Bachelor of Science (B.S.) in Computer Engineering   Sep 2005 - Oct 2009

RESEARCH EXPERIENCE

Data Science and Engineering Lab, Michigan State University
PhD Student, Computer Science and Engineering Department   Jul 2017 –Jul 2021
- Projects: AI in Education, Misinformation Detection, Data Science for Social Good
- Advisor: Dr. Jiliang Tang

Teachers in Social Media, Michigan State University
PhD Student, Computer Science and Engineering Department   Apr 2018 – Jul 2021
- Projects: Incorporating Online Social Media in Educational Research
- Principal Investigator: Dr. Kaitlin Torphy

Dataminr Inc, New York City
Research Intern, Data Science Research Group   May 2019 – Sep 2019
- Projects: Event Detection in Social Media During Disasters
- Principal Investigator: Dr. Alex Jaimes

Yousefi's Lab, Urmia University
M.S Student, College of Engineering   Jun 2011 – Aug 2012
- Projects: File Broadcast Scheduling Algorithms for Vehicular Networks
- Principal Investigator: Dr. Saleh Yousefi
- Research areas: Computer Networks, Vehicular Networks, Scheduling Algorithms, Data Science

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PUBLICATIONS

Sakshi Solanki, Kiana Kheiri, Marissa A Tsugawa, and <u>Hamid Karimi</u>. Leveraging Social Media Analytics in Engineering Education Research. American Society for Engineering Education (ASEE) Annual Conference and Exposition Mining 2023.

<u>Hamid Karimi</u>, Kaitlin T. Torphy, and Kenneth A. Frank An Analysis of Diffusion of Teacher-curated Resources on Pinterest. In Proceedings of The 16th International Conference on Educational Data Mining (EDM 2023).

<u>Hamid Karimi</u>, Kaitlin T. Torphy, and Kenneth A. Frank. Teachers in Social Media: A Gender-aware Behavior Analysis. 2022 IEEE International Conference on Big Data (Big Data), 2022.

Martin Rehm, <u>Hamid Karimi</u>, Sara Moukarzel, Anita Caduff, Alan J Daly, Miguel del Fresno, Rafael Perez-Escamilla. Classification of Users in Social Media – Employing Mixed-Methods to categorize Participants in Twitter Discussions. American Educational Research Association (AERA Annual Meeting, 2022).

Delaney Moore, John Edwards, <u>Hamid Karimi</u>, Rajiv Khadka, and Paul Bodily. "Temporal Abstract Syntax Trees for Understanding Student Coding Thought Process." In 2022 Intermountain Engineering, Technology and Computing (IETC), pp. 1-6. IEEE, 2022.

<u>Hamid Karimi</u>, and Tyler Derr. "Decision Boundaries of Deep Neural Networks." IEEE 2022 International Conference on Machine Learning and Applications (ICMLA 2022).

M. Fawad Akbar Khan, and <u>Hamid Karimi</u>. "A New Framework to Assess the Individual Fairness of Probabilistic Classifiers." IEEE 2022 International Conference on Machine Learning and Applications (ICMLA 2022).

<u>Hamid Karimi</u>, M. Fawad Akbar Khan, Haochen Liu, Tyler Derr, and Hui Liu. "Enhancing Individual Fairness through Propensity Score Matching." The 9th IEEE International Conference on Data Science and Advanced Analytics (DSAA 2022).

<u>Hamid Karimi</u>, Jiliang Tang, Xochitl Weiss, and Jiangtao Huang. Automatic Identification of Teachers in Social Media using Positive Unlabeled Learning. 2021 IEEE International Conference on Big Data (Big Data), 2021, pp. 643-652.

Haochen Liu, Wei Jin, <u>Hamid Karimi</u>, Zitao Liu, and Jiliang Tang. The Authors Matter: Understanding and Mitigating Implicit Bias in Deep Text Classification. In Proceedings of the 59th Annual Meeting of the Association for Computational Linguistics and the 11th International Joint Conference on Natural Language Processing, 2021, pp. 74–85.

Tyler Derr, <u>Hamid Karimi</u>, Xiaorui Liu, Jiejun Xu, and Jiliang Tang. Deep Adversarial Network Alignment . In Proceedings of the 30th ACM International Conference on Information & Knowledge Management. Association for Computing Machinery, New York, NY, USA, 352–361.

Kaitlin Torphy Knake, <u>Hamid Karimi</u>, Sihua Hu, Kenneth A. Frank, and Jiliang Tang. Educational research in the twenty-first century: Leveraging big data to explore teachers' professional behavior and educational resources accessed within Pinterest. The Elementary School Journal 2021 122:1, 86-111.

<u>Hamid Karimi</u>*, Aaron Brookhouse*, Tyler Derr*, H. Russell Bernard, and Jiliang Tang. Road to the White House: Analyzing the Relations Between Mainstream and Social Media During the US Presidential Primaries.In Proceedings of the 32nd ACM Conference on Hypertext and Social Media (HT '21). Association for Computing Machinery, New York, NY, USA, 57–66.

Martin Rehm, <u>Hamid Karimi</u>, Sara Moukarzel, Anita Caduff, Alan J Daly, Miguel del Fresno, Rafael Perez-Escamilla. Classification of Users in Social Media – Employing Mixed-Methods to categorize Participants in Twitter Discussions. American Educational Research Association (AERA Annual Meeting, 2022)

<u>Hamid Karimi</u>, Kaitlin T. Torphy, Tyler Derr, Kenneth A. Frank, and Jiliang Tang. Understanding and Promoting Teacher Connections in Online Social Media: A Case Study on Pinterest. 2020 IEEE International Conference on Teaching, Assessment, and Learning for Engineering (TALE), 2020, pp. 536-541.

<u>Hamid Karimi</u>, Kaitlin T. Torphy, Tyler Derr, Kenneth A. Frank, and Jiliang Tang. Characterizing Teacher Connections in Online Social Media: A Case Study on Pinterest. In Proceedings of the Seventh ACM Conference on Learning @ Scale (L@S '20). Association for Computing Machinery, New York, NY, USA, 249–252.

<u>Hamid Karimi</u>, Tyler Derr, Kaitlin T. Torphy, Kenneth A. Frank, and Jiliang Tang. Towards Improving Sample Representativeness of Teachers on Online Social Media: A Case Study on Pinterest. Artificial Intelligence in Education. AIED 2020. Lecture Notes in Computer Science, vol 12164. Springer, Cham.

<u>Hamid Karimi</u>*, Tyler Derr*, Jiangtao Huang, and Jiliang Tang. Online Academic Course Performance Prediction using Relational Graph Convolutional Neural Network. In Proceedings of The 13th International Conference on Educational Data Mining (EDM 2020), pp. 444-450. 2020.

Hamid Karimi and Jiliang Tang. Decision Boundary of Deep Neural Networks: Challenges and Opportunities. In Proceedings of the 13th International Conference on Web Search and Data Mining. Association for Computing Machinery, New York, NY, USA, 919–920.

Hamid Karimi*, Jiangtao Huang*, and Tyler Derr. A deep model for predicting online course performance Workshop on Artificial Intelligence for Education. AAAI-20202. February 8, 2020, New York, New York - USA.

Hamid Karimi*, Tyler Derr, and Jiliang Tang. Characterizing the decision boundary of deep neural networks. arXiv preprint arXiv:1912.11460 (2019).

Hamid Karimi, Tyler Derr, Kaitlin T. Torphy, Kenneth A. Frank, and Jiliang Tang. A roadmap for incorporating online social media in educational research Teachers College Record 121, no. 14 (2019): 1-24.

Hamid Karimi*, Tyler Derr*, Aaron Brookhouse, and Jiliang Tang. Multi-factor congressional vote prediction. In Proceedings of the 2019 IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (ASONAM '19). Association for Computing Machinery, New York, NY, USA, 266–273.

Hamid Karimi*, and Jiliang Tang. Learning Hierarchical Discourse-level Structure for Fake News Detection In Proceedings of the 2019 Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies, Volume 1 (Long and Short Papers), pp. 3432-3442. 2019.

Hamid Karimi, Courtland VanDam, Liyang Ye, and Jiliang Tang. End-to-end compromised account detection. In 2018 IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (ASONAM), pp. 314-321. IEEE, 2018. Best Paper Award

Courtland VanDam, Pang-Ning Tan, Jiliang Tang, and Hamid Karimi. Cadet: A multi-view learning framework for compromised account detection on twitter. In 2018 IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (ASONAM), pp. 471-478. IEEE, 2018.

Hamid Karimi, Proteek Roy, Sari Saba-Sadiya, and Jiliang Tang. Multi-source multi-class fake news detection. In Proceedings of the 27th international conference on computational linguistics, pp. 1546-1557. 2018.

Hamid Karimi, Jiliang Tang, and Yanen Li. Toward end-to-end deception detection in videos. In 2018 IEEE International Conference on Big Data (Big Data), pp. 1278-1283. IEEE, 2018.

Hamid Karimi. Interpretable multimodal deception detection in videos. In Proceedings of the 20th ACM International Conference on Multimodal Interaction, pp. 511-515. 2018.

Hamid Karimi, Saleh Yousefi, and Maghsud Solimanpur. A Segmentation Approach for File Broadcast Scheduling. Journal of Parallel and Distributed Computing, Elsevier, 2013.

Mohammad Javad Fazel Ashrafi, Saleh Yousefi, Seyed Mohammad Hosseini, Hamid Karimi, Habib Rostami and Hamidreza Ataeian. Modeling the Impact of inter-vehicle communications on Chain Collision Avoidance, 20th ITS World Congress, Tokyo, Japan, 2013.

Habib Rostami, Hamidreza Ataeian, Koroos Hamzeh, Saleh Yousefi and Hamid Karimi. Connected Vehicle Technology in I.I.IRAN. 20th ITS World Congress, Japan ,Tokyo, 2013.

Himan Zarza, Hamid Karimi , Seyed Mohammad Hosseini, Saleh Yousefi, Hamid Reza Ataeian and Habib Rostami. CAGFP: Context Aware Geocast Forward- ing Protocol for Inter- Vehicle Communication. IEEE Proceedings of The International Conference on Electrical Engineering (ICEE), 2013.

Hamid Karimi, Saleh Yousefi, Maghsud Solimanpur. Offline and Online Broadcast Scheduling Algorithms for File Broadcast in Mobile WiMAX. IEEE of Sixth International Symposium on Telecommunications, IST, 2012.

Hamid Karimi, Saleh Yousefi, Maghsud Solimanpur. Segmentation Approach for file broadcast scheduling. 17th Annual Computer Conference of Computer Society of Iran (CSI), 2012.

FUNDING

A Smart Toolkit for Knowledge Brokers to Visualize Social Opportunity Spaces (**SOSNetLab project**) (Nov 2021-Nov 2024). Funding source: The Bill and Melinda Gates Foundation. Amount: 74K. Role: Technical Partner

Predicting Snowpack and Snowmelt to Optimize Water Resource Management in Utah (May 2022 – April 2024). Funding source: Utah Extension Water Initiative (Utah State University). Amount: $63,295. Role: co-PI

Developing High-Resolution Seasonal Snow Forecasts for Utah's Watersheds (May 2022 – April 2024). Funding source: United States Geological Survey (USGS). Amount: $30,000. Role: co-PI

HONORS & AWARDS

• International Faculty Recognition Award at Utah State University	Nov 2022
• MSU Dissertation Completion **Fellowships**	Dec 2020
• MSU COGS Conference Award for WSDM'20 (with **Fellowship** Funding)	Feb 2020
• MSU Graduate **Leadership Fellow**	Aug 2019 – May 2020
• MSU Engineering Graduate **Leadership Fellow**	Aug 2018 – May 2019
• **Best Poster Award** at MSU Engineering Symposium.	Apr 2019
Title: Learning Hierarchical Discourse-level Structure for Fake News Detection	
• **Outstanding Graduate Student Service Award** at CSE@MSU	Feb 2019
• **Best Paper Award** at IEEE/ACM ASONAM 2018	Aug 2018
Title: End-to-end compromised account detection.	
• **Best Oral Presentation** at 10th The Graduate Academic Conference (COGS)	Feb 2018
Title: Veracity in Big Data (**Video**)	
• Student **Travel Award** for ICMI'18 from NSF	2018
• Top Ranked Student in Information Technology Engineering, Urmia University	2012

MENTORING (AS ADVISOR)

Data Science and Applications Lab, Utah State University

• M. Fawad Akbar Khan, Ph.D student of Computer Science	Aug 2021 – Present
Educational data mining and student-generated data processing	
• Kiana (Leanna) Kheiri, Ph.D student of Computer Science	Aug 2022 – Present
Social Media Mining (supported by **SOSNetLab project**)	
• Soheila Farokhi, Ph.D student of Computer Science	Aug 2022 – Present
Machine learning with graphs and its applications in education	
• Arash A. Foumani, Ph.D. student (Co-advised Major Advisor: Dr. Hamdi)	Aug 2022 – Present
Dynamic graph neural networks	
• Aswani Yaramala, MS student of Computer Science (Plan A)	Aug 2022 – Present
Computational methods in MOOC	

MENTORING (AS PHD)

Data Science and Engineering Lab, Michigan State University

• Xochitl Veronica Sanchez Weiss, B.S. Computer Science & Engineering	Aug 2020 – Present
Ongoing Project on Educational Content Characterization	
• Aaron Brookhouse, B.S. Electrical Engineering	Aug 2018 – Present

    MSU Professorial Assistantship Program
    Co-authored "Multi-Factor Congressional Vote Prediction" ASONAM'19
    Co-authored "Road to the White House: Analyzing the Relations Between
                   Mainstream and Social Media During the U.S. Presidential Primaries" HT'2021
    Poster presentation of our work at MID-SURE 2019
    Wrote him letters of recommendation for 2020 REU applications
        He accepted WSU's Smart Environments REU Program (and invited to others)
    Ongoing Project on Social Media and Political Elections

- Liyang Ye, B.S. Computer Science and Engineering   Aug 2017 – Aug 2018
    Co-authored "End-to-End Compromised Account Detection" ASONAM'18
                    (receipt of the best paper award)

- Tianrui Liu, B.S. Computer Science and Engineering   Feb 2019 – Sep 2019
    Data collection for educational resources from online social media

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SYMPOSIUMS / WORKSHOPS

Hamid Karimi, Tyler Derr, Kaitlin Torphy, Ken Frank, and Jiliang Tang. Understanding and Promoting Teacher Connections in Online Social Media: A Case Study on Pinterest. *Michigan State University Graduate Academic Conference,* Presentation, 2020.

Hamid Karimi, Kaitlin Torphy, Ken Frank, and Jiliang Tang. Teachers in Social Media: Social Science Research in the Fifth Estate . *The Computational Social Science Workshop, University of Chicago*, Presentation, 2019.

Aaron Brookhouse*, Tyler Derr, Hamid Karimi, and Jiliang Tang. Why Do People Unfollow on Twitter. *Mid-Michigan Symposium for Undergraduate Research Experiences (MID-SURE)*, Poster, 2019. *Undergraduate student mentored

Tyler Derr, Hamid Karimi, and Jiliang Tang. Multi-Factor Congressional Vote Prediction. *Michigan State University Graduate Academic Conference - Three-Minute Thesis Competition*, Presentation, 2019. **"People's Choice" Award**

Hamid Karimi, Xiangyu Zhao, and Jiliang Tang. Crime Prediction in Urban Areas *Michigan State University Graduate Academic Conference*, Presentation, 2019.

Hamid Karimi, and Jiliang Tang. Veracity in Big Data. *Michigan State University Graduate Academic Conference*, Presentation, 2018. **Best Oral Presentation**

Tyler Derr, Hamid Karimi, and Jiliang Tang. Deep Congressional Vote Prediction. *Southeast Michigan Postdoctoral Symposium*, Presentation, 2018. **Second Prize** Awarded by University of Michigan's Postdoctoral Association

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INVITED TALKS

My interview with AggieTVNews, a local "TV" at Utah State University, about ChatGPT	Feb 2023
Guest Lecture on "Machine Learning with Graphs" Deep Learning Theory and Applications class (STAT/CS 6685)	Nov 2022
Guest Lecture on "Big Data and Machine Learning" Department of Plants, Soils & Climate, Utah State University	Sep 2021
A roadmap for incorporating online social media in educational research Teachers College at Columbia University (**Video**)	Mar 2020
Teachers in Social Media: Social Science Research in the Fifth Estate University of Chicago (**Video**)	May 2019
How do Teachers Utilize Social Media? Sci-Files Radio Show (**Podcast**)	May 2019

TEACHING

Utah State University

Instructor, Department of Computer Science   Aug 2021 – Present
  • CS5840/CS6840: Social Network Analysis (offered in Fall semesters)
  • CS5850/CS6850: Introduction to Data Analysis (offered in Spring semesters)

Michigan State University

Co-Instructor, Computer Science and Engineering Department   Sep 2019 – Dec 2020
  • Big Data Analysis (Fall 19 & Fall 20)

Teaching Assistant, Computer Science and Engineering Department   Aug 2015 – Aug 2018
- Computer Networks (Fall 15, Spring 16 & Fall 16)
- Intro to Programming II (C++) (Summer 16 & Spring 17)
- Operating Systems (Summer 17 & Fall 17)

Urmia University

Instructor, Department of Computer Engineering   Aug 2011 – Aug 2012
- Internet Technologies (Undergraduate Level, Fall 11)
- Introduction to C++ Programming (Undergraduate Level, Spring 12)
- Introduction to C++ Programming [lab] (Undergraduate Level, Spring 12)

Teaching Assistant, Department of Computer Engineering   Jan 2010 – Jan 2011
- Introduction to C++ Programming (Spring 2010, Fall 2010)

SERVICES

Editor
- The Guest Editors of open access journal Water on Special Issue "Novel Approaches and Metrics to Characterize and Predict Hydrometeorological Extremes: Machine Learning and Numerical Models" 2022

Program Committee Member
- International Conference of the Immersive Learning Research Network (iLRN2022)   2022 – 2023
- The International AAAI Conference on Web and Social Media (ICWSM)   2019 – 2021
- Association for the Advancement of Artificial Intelligence (AAAI)   2020 – 2022
- International Joint Conferences on Artificial Intelligence (IJCAI)   2020
- International Conference on Neural Information Processing (ICONIP)   2020-2022
- Artificial Intelligence for Education (AI4EDU) @ AAAI   2020
- International Conference on Information and Knowledge Management (CIKM)   2019 – 2022
- IEEE International Conference on Big Data (IEEE BigData)   2019 – 2022
- Advances in Social Networks Analysis & Mining (ASONAM)   2018 – 2022

Conference Sub-Reviewer
- SIGKDD Conference on Knowledge Discovery and Data Mining (KDD)   2019
- International Joint Conference on Artificial Intelligence (IJCAI)   2019
- North American Chapter of the Association for Computation Linguistics (NAACL-HLT)   2019
- Conference on Empirical Methods in Natural Language Processing (EMNLP)   2019
- Annual Meeting of the Association for Computational Linguistics (ACL)   2019
- The Web Conference (WWW)   2018 – 2019
- ACM International Conference on Web Search and Data Mining (WSDM)   2018 – 2022
- Association for the Advancement of Artificial Intelligence (AAAI)   2018 – 2019
- International Conference on Web and Social Media (ICWSM)   2018
- Conference on Information and Knowledge Management (CIKM)   2018 – 2019
- ACM Conference on Research and Development in Information Retrieval (SIGIR)   2018 – 2019
- ACM Recommender Systems (RecSys)   2017- 2019

Journal Reviewer
- Frontiers in Earth Science   2022
- Data Mining and Knowledge Discovery   2022
- Information Processing and Management   2021
- Field Methods   2020
- IEEE Transactions on Knowledge and Data Engineering (TKDE)   2020
- Computer & Education (ANS)   2019
- IEEE Transactions on Neural Networks and Learning Systems (TNNLS)   2019
- Teacher College Record   2019
- IET Information Security   2019
- ACM Transactions on Knowledge Discovery from Data (TKDD)   2019

Other Services
- Graduation Admission Committee CS@USU   Aug 2021 – Present

VOLUNTEERING	**Conference Volunteering**	
	• Volunteer at AIED 2020	2020
	• Volunteer at EDM 2020	2020
	• Volunteer at ICML 2020	2020
	• Volunteer at WSDM 2018	2020
	• Session chair at at IEEEBigData 2018	2019
	"Threat Detection using Big Data Analytics"	

General Volunteering

	• Mid-Michigan Symposium for Undergraduate Research Experiences (Mid-SURE)	2017 – 2019
	• Activity leader for Girls Math & Science Data at MSU (middle school students)	2019 – 2020
	• Hosting and discussing with potential visiting MSU CSE Graduate Students	2018 – 2020
	• Activity leader for Girls Math & Science Data at MSU (middle school students)	2018 – 2019
	• Michigan State University Undergraduate Research and Arts Forum (UURAF)	2018 – 2019

PROFESSIONAL AFFILIATIONS & MEMBERSHIPS		
	Institute of Electrical and Electronic Engineers	2017 – Present
	Association of Computing Machinery	2017 – Present
	CSE@MSU Advisory Committee	2017 – 2019
	CSE@USU Graduate Association	2015 – Present