

# Jelena Tešić, Ph.D.

Assistant Professor • Computer Science • Texas State University • San Marcos TX 78666 U.S.A. [jtesic@txstate.edu](mailto:jtesic@txstate.edu)

## EDUCATION

**Ph.D. in Electrical and Computer Engineering, University of California Santa Barbara 01/2000 – 05/2004**

Thesis title: Managing Large Multimedia Repositories

**M.Sc. in Electrical and Computer Engineering, University of California, Santa Barbara, CA, 09/1998-12/1999**

Outstanding Teaching Assistant Award, ECE department, June 1999.

**Dipl. Ing. Electrical Engineering, University of Belgrade, Serbia, 10/1993-07/1998**

Thesis title: "Noise reduction in CDMA receivers", GPA: 9.64/10.00, top 1%.

## PROFESSIONAL EXPERIENCE

**Assistant Professor, Computer Science, Texas State University, 2017-present**

**Research Scientist, Mayachitra Inc, Santa Barbara, CA, 2009-2017**

**Research Staff Member, IBM Watson Research, NY, 2004 – 2009**

## FUNDED GRANTS and GIFTS

**NSF Expand AI**, Jan 2024 – Dec 2025, 400K, co-PI.

**TxDot**, Sep 2022 - Aug 2025, 500K, co-PI.

**DoE RDPP**, Sep 2022 - Aug 2024, 150K, co-PI.

**TXST CHERR**, June 2022 – May 2023, 70KPI.

**DoD NAVAIR**, Mar 2018 - Mar 2023, 505K, PI.

**NVIDIA GPU gift**, 2019 and 2022, 8K, PI.

**IBM gift**, 2020, 20K, co-PI.

**Private Grant** Sep 2018 – May 2019, 12K, co-PI.

**DoD STTR P1 P2** Oct 2014 – Jan 2018, 1.2 mil, PI.

## PROFESSIONAL ACTIVITIES

**6 U.S. PATENTS AWARDED: 9,710,760; 8,738,695; 8,032,539; 7,958,068; 7,818,329; and 7,707,162.**

**Area Chair** ACM Multimedia 2019 - 2023, ICIP 2018-2020, ICME 2018-2019.

**Technical program committee** ICASSP, ACM CIVR, IEEE ICIP, ICME, SIAM SDM, LoG.

**Reviewer** for the IEEE TKDE TGRS PAMI MM, SP, TNN, TMC, and JSTARS journals, Journal of Complex Networks, ACM Multimedia Systems Journal, and EURASIP Journal on Image and Video Processing.

**NSF CISE/IIS III CRII and SMALL** panelist 2019 2020.

**Panelist** on ACM MM "Diversity in Multimedia Retrieval Research" 2006.

**Guest Editor** Special Issue on Collaborative Tagging of Multimedia, IEEE Multimedia Magazine, July-Sep 2008 issue.

## ADVISING AND MENTORING

- **Ph.D. students:** Principal advisor for 5 Ph.D. students (2 defending dissertation proposals in Fall 2023)
  - Committee member for 4 Ph.D. students
- **Master students:** Thesis advisor for 3 Master students (2 graduated)
- Honor thesis advisor for 1 undergraduate student
- **Sponsored research:** 15+ undergraduate and graduate students worked in the Data Lab on the sponsored research through NAVAIR.
- **Mentor:** 10+ independent research projects (3 credit class); 7 undergraduates in NSF REU (2018-2021); 2 undergraduates in TXST SURE (2020-21) programs.
- **K-12:** Lego League coach for middle school; STEM Day lead for elementary school; mentor for 5 high school students in TXST HSMC (2019-20) program and for 2 senior projects for BASIS HS students in Silicon Valley.

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## PUBLICATIONS @ TXST

Full list: <https://scholar.google.com/citations?hl=en&user=jRLy9uoAAAAJ>; Citations>3040; h-index: 22; i-10 index: 28;  
*TXST Student authors in italic*; IF: impact Factor; IS: Impact Score.

### PUBLISHED in PEER REVIEWED JOURNALS AND CONFERENCES

1. *M Elizondo*, R Musal, J Yu, J Tešić on behalf of N3C, "Long COVID Challenge: Predictive Modeling of Noisy Clinical Tabular Data," IEEE ICHI, June 2023, Houston, TX (IS:0.6, research ranking medicine:55).
2. *M. Shebaro*, J Tešić (2023) "Identifying Stable States of Large Signed Graphs," WWW '23 Companion, ATX (IS:15.6, research ranking in CS:6).
3. *H Gong*, J Tešić, J Tao, X Luo, F Wang (2023) "Automated Pavement Crack Detection with Deep Learning Methods: What Are the Main Factors and How to Improve the Performance?," Transportation Research Record: Journal of the Transportation Research Board (IF: 2.1)
4. *D Biswas*, J Tešić (2022) "Small Object Difficulty (SOD) Modeling for Objects Detection in Satellite Images", In 14<sup>th</sup> IEEE International Conference on Computational Intelligence and Communication Networks (CICN), virtual.
5. *MMM Rahman*, J Tešić (2022), "Evaluating Deep Feature Approximate Nearest Neighbor Indexing and Search," 2022 IEEE International Conference on Big Data (Big Data), virtual (IS:4.10).
6. *MMM Rahman*, J Tešić (2022), "Hybrid Approximate Nearest Neighbor Indexing and Search (HANNIS) for Large Descriptor Databases," 2022 IEEE International Conference on Big Data (Big Data), virtual (IS:4.10).
7. *D Biswas*, T Rahman, Z Zong, J Tešić (2022) "Improving the Energy Efficiency of Real-time DNN Object Detection via Compression, Transfer Learning, and Scale Prediction", IEEE NAS, Oct 2022, Philadelphia, PA (IS:10.65).
8. A Lommatzsch, B Kille, Ö Özgöbek, Y Zhou, J Tešić et al. (2022) NewsImages: addressing the depiction gap with an online news dataset for text-image rematching, ACM MM Sys, June 2022, Athleone, Ireland (IS:4.15).
9. *M. Tomasso*, L Rusnak, J Tešić (2022). Advances in Scaling Community Discovery Methods for Large Signed Graph Networks, *Oxford Journal of Complex Networks* Vol. 10, Issue 3, June 2022 (IF:2.1, IS:2.18).
10. *M Tomasso*, L Rusnak, J Tešić (2022). Cluster Boosting and Data Discovery in Social Networks, Proceedings of the ACM Symposium on Applied Computing (SAC), April 2022, online (IS:1.33).
11. *L Nogueira De Moira*, J Tešić (2021). pytwanalysis: Twitter Data Management and Analysis at Scale, IEEE International Conference on Social Networks Analysis, Management and Security (SNAMS), Dec 2021, online (IS:0.6).
12. *G Strauch*, JJ Lin, J Tešić (2021). Overhead Projection Approach for Multi-Camera Vessel Activity Recognition, online IEEE Big Data, REU Symposium track, Dec 2021 (IS:3.64).
13. *G Alabandi*, J Tešić, L Rusnak, M Burtscher (2021). Discovering and balancing fundamental cycles in large, signed graphs, Proceedings of the International Conference for High-Performance Computing (IS:5.2).
14. L Rusnak, J Tešić (2021). Characterizing Attitudinal Network Graphs through Frustration Cloud. Springer *Data Mining and Knowledge Discovery*, 35, 2498–2539 (IF:4.8; IS:5.6).
15. *B Ford*, A Qasem, J Tešić, Z Zong (2021) "Migrating Software from x86 to ARM Architecture: An Instruction Prediction Approach", IEEE NAS Oct 2021 (IS:11.8).
16. *A. Magill*, LN De Moura, M. Tomasso, M. Elizondo, and J. Tešić (2020) "Enriching content analysis of tweets using community discovery graph analysis," Proceedings of the MediaEval 2020 Workshop, volume 2882.
17. J Tešić, D Tamir, S Neumann, N Rishe, A Kandel, "Computing with Words in Maritime Piracy and Attack Detection Systems," International Conference on Human-Computer Interaction, 434-444, July 2020 (IS:4.11).
18. *N Dunstatter*, A Tahsini, M Guirguis, J Tešić, "Solving Cyber Alert Allocation Markov Games with Deep Reinforcement Learning," International Conference on Decision and Game Theory for Security, 164-183 (IS:3.3).
19. *H Samimi*, J Tešić, AHH Ngu, "Patient Centric Data Integration for Improved Diagnosis and Risk Prediction," Heterogeneous Data Management, Polystores, and Analytics for Healthcare, 185-195, 2019 (IS:3.22).
20. *DB Heyse*, N Warren, J Tešić, "Identifying maritime vessels at multiple levels of descriptions using deep features," SPIE Artificial Intelligence and Machine Learning for Multi-Domain Operations, 2019 (IS:0.49).
21. *T Mauldin*, AH Ngu, V Metsis, ME Canby, J Tešić, Experimentation and analysis of ensemble deep learning in IoT applications, Open Journal of Internet of Things (OJIOT) 5 (1), 133-149, 2019 (IF:2.38).
22. *N Warren*, B Garrard, E Staudt, J Tešić, Transfer learning of deep neural networks for visual collaborative maritime asset identification, IEEE 4th International Conference on Collaboration and Internet, 2018 (IS:0.76).

## SUBMITTED AND UNDER REVIEW

23. *D Biswas, J Tešić* (2023) "Domain Adaptation with Contrastive Learning for Object Detection in Satellite Imagery", IEEE Transactions on Geoscience and Remote Sensing (IF:8.2, IS:10.85).
24. *J Yu, Li Feng, J Tešić* (2023) "Data-Driven Teacher Attrition Modeling", Elsevier Information Processing and Management (IF:6.2, IS:10.97).
25. *MMM Rahman, J Tešić* (2023) , "Stratified Graph Indexing for Efficient Search in Deep Descriptor Databases" Springer International Journal of Multimedia Information Retrieval (IF:5.6).
26. *D Biswas, J Tešić* (2023) "Unsupervised Domain Adaptation with Debiased Contrastive Learning and Support-Set Guided Pseudo Labeling for Remote Sensing Images: JSTARS-2023-01182, IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing (IF: 5.5, IS:5.5)
27. *M. Shebaro, L Nogueira De Moira, J Tešić* (2023) "Improving Association Discovery through Multiview Analysis of Social Networks", Springer Nature Social Network Analysis and Mining, under revision (IF: 2.8, IS:3.54).
28. *M Elizondo, J Yu, D Payan, Li Feng, J Tešić* (2023) "Data-Driven Analysis of Intervention Effectiveness for COVID-19 Learning Loss in Texas Public Schools, IEEE Transactions on Learning Technologies (IF:4.43, IS:4.25).
29. *M. Shebaro, J Tešić* (2023) "Scaling Frustration Index and Corresponding Balanced State Discovery for Real Signed Graphs", submitted to ACM WSDM, under revision (IF:6.1, IS:11.2).
30. *M. Shebaro, J Tešić* (2023) "ABCD: Algorithm for Balanced Component Discovery in Signed Networks", submitted to SIAM SDM, under revision (IS: 6.75).
31. *MMM Rahman, D Biswas, J Tešić* (2023) , "EVIREC: Efficient Visual Indexing and Retrieval for Edge Crowd-sensing," conference submission, under review.
32. *MMM Rahman, S Das, J Tešić* (2023) , "Deep Learning-based Approach for Urban Driveway Identification from Aerial Imagery," conference submission, under review.

## EXTENDED ABSTRACTS

33. *M. Shebaro, J Tešić* (2023) "Identifying Stable States of Large Signed Graphs," Sunbelt International Network for Social Network Analysis (IS:0.6).
34. *A Pantoja, E Bilewu, J Tešić* (2021) "Deep Learning Modeling and Vehicle Tracking for Smart City Traffic Alert System," Bulletin of the American Physical Society (IS:1.6).
35. *L Nogueira De Moira, J Tešić* (2019) " Spread of English Neologisms through Brazilian Portuguese Online Chatter, A Data Science Perspective," The 8th Hispanic and Luso-Brazilian Linguistics Conference at Arizona State University.