Jelena Tešić, Ph.D.

Associate Professor, Computer Science•Texas State University•San Marcos TX 78666 U.S.A. •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

2024- , Associate Professor; 2017-2024, Assistant Professor, Computer Science, Texas State University, TX.
2009-2017, Research Scientist, Mayachitra Inc, Santa Barbara, CA.
2004-2009, Research Staff Member, IBM Watson Research, NY.

FUNDED GRANTS and GIFTS

- USDA-NIFA HSI Education Grant, Jan 2025, 1.2million, co-PI.
- NSF Expand AI, Jan 2024 – Dec 2025, 400K, co-PI.
- TXST REP, 2024, 16K, 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

7 U.S. PATENTS AWARDED: 12,093,970; 9,710,760; 8,738,695; 8,032,539; 7,958,068; 7,818,329; 7,707,162.
Reviewer for numerous ACM IEEE Elsevier Springer and Cambridge Journals. **Area Chair** ACM Multimedia and MMSys.
Co-Founder, Texas State University Center for Analytics and Data Science (CADS), 2023 – present.
Founder, DataLab@TXST (https://DataLab12.github.io), 2018 - present.

IEEE Senior Member; ACM member
NSF CISE/IIS III CRII and SMALL panelist 2019 2020.
Panelist on ACM Multimedia "Diversity in Multimedia Retrieval Research" 2006.
Guest Editor Special Issue on Collaborative Tagging of Multimedia, IEEE Multimedia Magazine, July-Sep 2008 issue.

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ADVISING AND MENTORING

- **Ph.D. students**: Principal advisor for 6 Ph.D. students; Committee member for 4 Ph.D. students**; Master students t**hesis 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.

Full list: https://scholar.google.com/citations?hl=en&user=jRLy9uoAAAAJ; **Citations>3255;** h-index: 23; i-10 index: 32**;** *TXST Student authors in italic*; IF: impact Factor; IS: Impact Score.

PUBLICATIONS @ TXST

1. *M Elizondo, J Yu, D Payan*, L Feng, **J Tešić**, *Novel Considerations in the ML/AI Modeling of Large-Scale Learning Loss*, IEEE Access (IF: 3.5)

2. *T Tani, A Scouten, E Ortiz*, R McLean, **J Tešić** (2025), "Automated Corrosion Identification in Metal Imagery: Traditional vs. Deep Learning,", Advances in Visual Computing. ISVC 2024. Lecture Notes in Computer Science, vol 15047. Springer, Cham. https://doi.org/10.1007/978-3-031-77389-1_21

3. *H Gong*, A Scouten, **J Tešić**, F Wang (2025) "Deep Learning Pipeline for Modeling Pavement Cracks with an Imbalanced Dataset (MoPaC)", TRR: Journal of the Transportation Research Board (IF: 2.1)

4. *D Biswas*, **J Tešić** (2024), "Domain Adaptation with Contrastive Learning for Object Detection in Satellite Imagery", IEEE Transactions on Geoscience and Remote Sensing (IF:8.2, IS:10.85).

5. *M Elizondo*, D Gobert, **J Tešić** (2024), "AI/ML Pipeline for Predicting Diabetic Readmissions from CMS OASIS dataset", IEEE Big Data Poster (IF:7.2).

6. *MMM Rahman*, **J Tešić** (2024), "Stratified Graph Indexing for Efficient Search in Deep Descriptor Databases" Springer International Journal of Multimedia Information Retrieval (IF:5.6).

7. *D Biswas*, **J Tešić** (2024) "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)

8. *M. Shebaro, L Nogueira De Moira*, **J Tešić** (2024) "Improving Association Discovery through Multiview Analysis of Social Networks", Springer Nature Social Network Analysis and Mining (IF: 2.8, IS:3.54).

9. *T.A. Tani*, **J Tešić** (2024) "Advancing Retinal Vessel Segmentation with Diversified Deep Convolutional Neural Networks, IEEE Access (IF:3.5).

10. *MMM Rahman*, *D Biswas,* **J Tešić** (2024) "Image Deduplication Using Efficient Visual Indexing and Retrieval: Optimizing Storage, Time and Energy for Deep Neural Network Training," submitted to Springer Signal Image and Video Processing Journal (IF 2.3).

11. *D. Biswas*, **J Tešić** (2024) *"BinaryDNet53: A Lightweight Binarized CNN for Monkeypox Virus Image Classification*," in Springer Signal Image and Video Processing Journal (IF: 2.3).

12. *M. Shebaro*, **J Tešić** (2023) "Identifying Stable States of Large Signed Graphs," WWW '23 Companion, ATX (IS:15.6, research ranking in CS:6).

13. *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)

14. *M Elizondo*, R Musal, *J Yu*, **J Tešić** (2013) "Long COVID Challenge: Predictive Modeling of Noisy Clinical Tabular Data," IEEE ICHI, June 2023, Houston, TX (IS:0.6, research ranking medicine:55).

15. *D Biswas*, **J Tešić** (2022) "Small Object Difficulty (SOD) Modeling for Objects Detection in Satellite Images", In 14th IEEE International Conference on Computational Intelligence and Communication Networks (CICN), virtual.

16. *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).

17. *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).

18. *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).

19. 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).

20. *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, (IF:2.1, IS:2.18).

21. *M Tomasso*, L Rusnak, **J Tešić** (2022). Cluster Boosting and Data Discovery in Social Networks, Proceedings of the

ACM Symposium on Applied Computing (SAC), (IS:1.33).

22. *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), (IS:0.6).
23. *G Strauch, JJ Lin*, **J Tešić** (2021). Overhead Projection Approach for Multi-Camera Vessel Activity Recognition, online IEEE Big Data, REU Symposium track (IS:3.64).
24. *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).
25. 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).
26. *B Ford*, A Qasem, **J Tešić**, Z Zong (2021) "Migrating Software from x86 to ARM Architecture: An Instruction Prediction Approach", IEEE NAS (IS:11.8).
27. *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.
28. **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 (IS:4.11).
29. *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).
30. *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 (IS:3.22).
31. *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 (IS:0.49).
32. *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).
33. *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).

EXTENDED ABSTRACTS
1. *M. Shebaro*, **J Tešić** (2023) "Identifying Stable States of Large Signed Graphs," Sunbelt International Network for Social Network Analysis (IS:0.6).
2. *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).
3. *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.