Jelena Tešić, Ph.D.

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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.

RESEARCH FUNDING

- Mylene Farias (PI), **Jelena Tešić (co-PI),** Sarah Fritts (Supporting), "Advancing the Automation of Bat Monitoring for Sustainable Wind Energy Development, TXST Center for Analytics and Data Science, Texas State University, $6,000, 2025, Catalyst Award, grant.

- Xiangping Liu (PI), **Jelena Tešić (co-PI),** "Comprehensive Experiential Learnings to Promote Climate Resilient Agriculture for Under-Represented Minority Students," USDA NIFA HSI, Federal, $1,200,000, Oct 2024 – Sep 2028, grant.

- Denise Gobert (PI), Monica Hughes (Co-PI), **Jelena Tešić (co-PI),** Keri Jackson, Keri (Supporting), "Hospital Readmissions for Persons with Diabetes who Receive Home Health Services: Predictive Model Analysis using Machine-Leaning," Williamson County Foundation Grant, Private / Foundation / Corporate, $10,000, Nov 2024 – Aug 2026, grant.

- Tahir Ekin, Tahir (Pl), **Jelena Tešić (co-PI),** Apan Qasem (co-PI), Damian Valles Molina (co-PI), Lucia Summers (co-PI), "Expanding AI Curriculum and Infrastructure at Texas State University to Advance Interdisciplinary Research and Grow a Diverse AI Workforce, NSF Expand AI, Federal, $400,000, Jan 2024 – Dec 2025, 400K, grant.

- Robert McLean (PI) and **Jelena Tešić (co-PI),** "Automating Microbial Biofilm Corrosion Analysis Using Semantic Segmentation for Enhanced Space Mission Safety, Texas State University, $16,000, 2024, grant.

- Feng Wang, Feng (PI), Haitao Gong (Co-PI), **Jelena Tešić (Co-PI),** Xiaohua Luo, Xiaohua (Co-PI), "Artificial Intelligence for Pavement Condition Assessment from 2D/3D Surface Images, Texas Department of Transportation (TxDOT)," State, $451,875, Sep 2022- Aug 2025, grant.

- Salah Faroughi (PI), **Jelena Tešić (co-PI),** John Tiefenbacher, (Co-PI), "ESMs Latent Space Exploration for Uncertainty Quantification and Spatiotemporal Downscaling," DOE-BER, Federal, $150,000. Aug 2022 – Jun 2025, grant.

- **Jelena Tešić (PI)**, "Object Cueing Using Biomimetic Approaches to Visual Information Processing," NAVAIR, Federal, NAVAIR SBIR N14A-T008 AT, $199,708, March 2021 – March 2023, grant @ TXST; NAVAIR SBIR N14A-T008 P2, $307,005, March 19, 2018 – March 2021, grant @ TXST; NAVAIR STTR N14A-T008, P1 and P2, $1,200,000 Oct 2014 – Jan 2018, grant a@ Mayachitra Inc.

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 ACMMM, ACMIMX and ACMMMSys.
Organization ACMMM 2025 Doctoral Symposium, ACM MMSys Associate Chair, ACM ICMR 2027 committee.

Co-Founder, Research Lead, Texas State University Center for Analytics and Data Science (CADS), 2023 – present.
Founder, DataLab@TXST (https://DataLab12.github.io), 2018 - present.
IEEE and National Academy of Inventors (NAI) Senior Member
Panelist: NSF CISE/IIS III CRII and SMALL Programs; ACMMM "Diversity in Multimedia Retrieval Research" 2006.
Guest Editor Special Issue on Collaborative Tagging of Multimedia, IEEE Multimedia Magazine, July-Sep 2008.

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PUBLICATIONS

Full publication list: https://scholar.google.com/citations?hl=en&user=jRLy9uoAAAAJ
Citations>3400, h-index: 24, i-10 index: 38.

PUBLICATIONS @ TXST - *TXST Student authors in italic*; IF: impact Factor; IS: Impact Score.

1. *D Biswas*, **J Tešić** (2025), "MMVAD: A Vision-Language Model for Cross-Domain Video Anomaly Detection with Contrastive Learning and Scale-Adaptive Frame Segmentation," Elsevier Expert Systems with Applications Journal (IF 7.5)
2. *M Shebaro*, L Feng, **J Tešić** (2025), ABCD: Algorithm for Balanced Component Discovery in Signed Networks, IEEE Access (IF: 3.6)
3. *M Elizondo, J Yu, D Payan*, L Feng, **J Tešić** (2025), Novel Considerations in the ML/AI Modeling of Large-Scale Learning Loss, IEEE Access (IF: 3.6)
4. *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. Lecture Notes in Computer Science, vol 15047. Springer, Cham.
5. *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)
6. *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).
7. *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).
8. *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).
9. *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)
10. *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:3.5).
11. *T.A. Tani*, **J Tešić** (2024) "Advancing Retinal Vessel Segmentation with Diversified Deep Convolutional Neural Networks, IEEE Access (IF:3.5).
12. *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).
13. *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).
14. *M. Shebaro*, **J Tešić** (2023) "Identifying Stable States of Large Signed Graphs," WWW '23 Companion, ATX (IS:15.6).
15. *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)
16. *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).
17. *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.
18. *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).
19. *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).

20. *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).
21. 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).
22. *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).
23. *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).
24. *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).
25. *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).
26. *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).
27. 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).
28. *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).
29. *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.
30. **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).
31. *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).
32. *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).
33. *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).
34. *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).
35. *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.