Jelena Tešić, Ph.D.

Assistant 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

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

PUBLICATIONS

Google Scholar: https://scholar.google.com/citations?hl=en&user=jRLy9uoAAAAJ
Citations>3025, h-index: 22, i-10 index: 28**;** *Student authors in italic*

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.
2. *M. Shebaro*, **J Tešić** (2023) "Identifying Stable States of Large Signed Graphs", WWW '23 Companion, ATX.
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.
4. *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.
5. *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.
6. *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.
7. 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.
8. *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.
9. *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.
10. *L Nogueira*, **J Tešić** (2021). pytwanalysis: Twitter Data Management And Analysis at Scale, Proceedings of IEEE International Conference on Social Networks Analysis, Management and Security (SNAMS), Dec 2021, online.
11. *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.
12. *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.
13. L Rusnak, **J Tešić** (2021). Characterizing Attitudinal Network Graphs through Frustration Cloud. *Data Mining and Knowledge Discovery*, 35, 2498–2539.
14. *B Ford*, A Qasem, **J Tešić**, Z Zong (2021) "Migrating Software from x86 to ARM Architecture: An Instruction Prediction Approach", IEEE NAS Oct 2021.
15. **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.
16. *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 2019.
17. *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.

18. *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.
19. *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.
20. *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
21. L. Xie, R. Yan, **J. Tešić**, A. Natsev, and J. R. Smith, "*Probabilistic visual concept trees*," ACM Multimedia, 2010.
22. R. Yan, **J. Tešić**, and J. R. Smith, "*Model-shared subspace boosting for multi-label classification*", ACM KDD 2007.
23. A Natsev, A Haubold, J Tešić, L Xie, R Yan, "Semantic concept-based query expansion and re-ranking for multimedia retrieval", ACM MM 2007.
24. **J. Tešić**, and A. Natsev, J. R. Smith, "*Cluster-based Data Modeling for Semantic Video Search*," ACM CIVR 2007.
25. M. Naphade, J. R. Smith, **J. Tešić**, S.F. Chang, W. Hsu, L. Kennedy, A. Hauptmann, and J. Curtis, "**Large-Scale Concept Ontology for Multimedia**," IEEE Multimedia Magazine, Vol. 13, No. 3, July 2006.
26. J Wang, N Boujemaa, A Del Bimbo, D Geman, A Hauptmann, J Tesić, "Diversity in multimedia information retrieval research", Proceedings of the 8th ACM MIR 2006.
27. A. Natsev, M. R. Naphade, **J. Tešić**, "*Learning the Semantics of Multimedia Queries and Concepts from a Small Number of Examples*," in ACM Multimedia, Singapore, November 2005 (best paper, content track).

FUNDED GRANTS

NSF Expand AI, Jan 2024 – Dec 2025, 400K, co-PI, recommended for funding.

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

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

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

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

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

IBM gift, 2020, 20K, 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.
Guest Editor Special Issue on Collaborative Tagging of Multimedia, IEEE Multimedia Magazine, July-Sep 2008 issue.
Area Chair ACM Multimedia 2019 - 2023, ICIP 2018-2020, ICME 2018-2019.
Technical program committee ICASSP, ACM CIVR, IEEE ICIP, and SIAM SDM Workshop on Mining Scientific and Engineering.
Reviewer for the IEEE TKDE TGRS PAMI MM, SP, TNN, TMC journals, Journal of Complex Networks, ACM Multimedia Systems Journal, and EURASIP Journal on Image and Video Processing, and numerous conferences.
NSF CISE/IIS III CRII and SMALL panelist 2019 2020.
Panelist on ACM MM "Diversity in Multimedia Retrieval Research" 2006.

ADVISING AND MENTORING

- **Ph.D. students**: Principal advisor for 5 Ph.D. students and a committee member for 4 Ph.D. students
- **Master students:** Thesis advisor for 3 Master students
- Honor thesis advisor for 1 undergraduate student
- **Sponsored research:** 15+ students worked in 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; STEAM day lead for elementary school; mentor for 5 high school students in TXST HSMC (2019-20) and 2 senior projects for BASIS HS students.