

Curriculum Vitae: Sanda Martinčić-Ipsić

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EDUCATION

Ph.D., Computer Science, University of Zagreb, Faculty of Electrical Engineering and Computing, 2002-2007.

Thesis Topic: *Croatian Speech Recognition and Synthesis Based on Context-Dependent Hidden Markov Models*. Supervisor: Slobodan Ribarić.

M.Sc., IT Management, University of Ljubljana, Faculty of Economy, 1996-1999.

Thesis Topic: *The Model for Control of Medicine Consumption*. Supervisor: Gortan Resinovič.

B.E., Computer Science, University of Ljubljana, Faculty of Computer Science and Informatics, 1988-1994.

Thesis Topic: *The Model for Evaluation of Decision Support Methods*. Supervisor: Vladislav Rajkovič.

PROFESSIONAL POSITIONS

Full Professor with Tenure

Faculty of Informatics and Digital Technologies, University of Rijeka 2024-

Head of Laboratory for Natural Speech and Language Processing

Center for Artificial Intelligence and Cybersecurity, University of Rijeka 2019 - present

Full Professor

Faculty of Informatics and Digital Technologies, University of Rijeka former Department of Informatics, University of Rijeka 2019-2024.

Head of PhD Study in Informatics

Faculty of Informatics and Digital Technologies, University of Rijeka 2022 - 2024.

Head of Chair for Intelligent Systems

Department of Informatics, University of Rijeka 2009 - 2023.

Associate Professor

Department of Informatics, University of Rijeka 2014 - 2018.

Visiting Professor

teaching topics in Big Data Analytics, Business Informatics Faculty of Management, University of Primorska, Koper Slovenia, February - June 2024.

teaching topics in Text Analytics, Social Analytics and Big Data Analytics, Visiting Professor at Faculty of Information Studies, Novo mesto, November 2020.

teaching topics in Big Data Analytics, Faculty of Organizational Sciences, University of Maribor, Slovenia, May 2018.

teaching topics in Social Media and Text Analytics, Faculty of Administration, University of Ljubljana, Slovenia, April 2016.

Erasmus+ Grant, teaching topics in Big Data, Faculty of Information and Communication Technologies, University "St. Kliment Ohridski" – Bitola, Macedonia, May 2016.

Erasmus Grant, teaching topics in Theoretical Computing, Department of Mathematics and Computer Science, Faculty of Education, University of Ljubljana, Slovenia, October 2010.

Assistant Professor

Department of Informatics, University of Rijeka 2009 - 2014.

Senior Assistant

Department of Informatics, University of Rijeka 2007 - 2009.

Assistant

Faculty of Humanities and Social Sciences, University of Rijeka 2002 - 2007.

Computer Science Expert

Polytechnics of Rijeka 2001 - 2002.

Computer Science Consultant, Project Manager

Health Insurance Institute of Slovenia 1995 - 2001.

Microsoft Sales

Atlantis Group, Ljubljana, Slovenia 1994 - 1995.

RESEARCH INTERESTS

Natural Language Processing, Knowledge Graphs, Language Networks, Semantic Technologies, Corpora Development, Speech and Language Technologies

RESEARCH PROJECTS

Project Leader

LangNet-KG, LangNet-KG: Knowledge Graph for Climate Change Research (Graf znanja o klimatskim promjenama), University of Rijeka, 5 co-workers, research grant, 2025-2029.

LangNet, Keyword Extraction and Summarization Based on Language Networks, University of Rijeka, 8 co-workers, research grant, 2019-2021.

LangNet, Language Networks, University of Rijeka, 7 co-workers, research grant, 2014-2019.

Research Class, Science Foundation University of Rijeka, 5 co-workers, 40 participants, research in informatics. 2010-2012.

Researcher

Digital4Security, Digital4Security– European Masters Programme in Cybersecurity Management & Data Sovereignty, DIGITAL-2022-SKILLS-03, 2023 - 2026.

Advisory Board

H2020 DESIGNSCAPES Building Capacity for Design enabled Innovation in Urban Environments **DESIGNSCAPES**, 2020 - 2021.

H2020 Easy Rights - Inclusive Future for All: Enabling Immigrants to Easily Know and Exercise their Rights **easyRights**, 2021 - 2022.

Management Committee Member

COST Action CA24121 - Knowledge Graphs in the Era of Large Language Models-**KGELL**, 2025 - 2029.

COST Action CA23111 - Searching for Nanostructured or pOre fOrming Peptides for therapY (SNOOPY) **SNOOPY**, 2024 - 2028.

COST Action CA18231 - Multi3Generation: Multi-task, Multilingual, Multi-modal Language Generation, **Multi3Generation**, 2019 - 2023.

ICT COST Action CA15109: “European Cooperation for Statistics of Network Data Science”, **COSTNET**, 2016 - 2020.

ICT COST Action IC1307: “The European Network on Integrating Vision and Language (**iV&L Net**): Combining Computer Vision and Language Processing For Advanced Search, Retrieval, Annotation and Description of Visual Data” **iV&L Net**, 2014 - 2018.

ICT COST Action IC1302: “Semantic keyword-based search on structured data sources - **KEYSTONE** , 2013 - 2017.

Past

- **EDIH Adria**, Digital Europe, WP3: Task 3.4. Internal competence building, 2023 - 2026.
- H2020 **MESOC** Measuring the Social Dimension of Culture, 2020 - 2023.
- HRZZ Multilayer Framework for the Information Spreading Characterization in Social Media during the COVID-19 Crisis **InfoCoV**, 2020 - 2022.
- Natural and Multimodal Man-Machine Communication, Uniri, 2014 - 2019.
- Speech Technologies, MZOS, (318-0361935-0852, 009-0361935-085) 2007 - 2013.
- Grapheme-Phoneme distributions for Croatian Language, Bilateral Croatian – Austrian project 2008 - 2009.
- Man-Machine Communication, MZT (009012), 2002 - 2006.
- COST 278 “Spoken Language Interaction in Telecommunication” – “SIG-Broadcast News Transcription (BNT)” 2001 - 2005.
- CRO-SPEECHDAT, Bilateral Croatian – Slovenian project 2002 - 2003.

PUBLICATIONS

Journal publications

A. Vorkapić; S. Martinčić-Ipšić; R. Piltaver. Interpretable Machine Learning: A Case Study on Predicting Fuel Consumption in VLGC Ship Propulsion. *Journal of Marine Science and Engineering (JMSE)*, 12(10), 1849. 2024. <https://doi.org/10.3390/jmse12101849>.

E. Erdem et al. Neural Natural Language Generation: A Survey on Multilinguality, Multimodality, Controllability and Learning, *Journal of Artificial Intelligence Research (JAIR)*, Vol. 73. 2022. <https://doi.org/10.1613/jair.1.12918>

S. Beliga, S. Martinčić-Ipšić, M. Matešić, I. Petrijevčanin Vuksanović, A. Meštrović: Infoveillance of the Croatian Online Media during the COVID-19 Pandemic: a One-Year Longitudinal NLP Study. *JMIR Public Health Surveill.* 2021;7(12):e31540 DOI: 10.2196/31540

2021 Nov 5. doi: 10.2196/31540. Epub ahead of print. PMID: 34739388.

K. Babić, M. Petrović, S. Beliga, S. Martinčić-Ipšić, M. Matešić, A. Meštrović: Characterisation of COVID-19-Related Tweets in the Croatian Language: Framework Based on the Cro-CoV-cseBERT Model, *Applied Sciences*, vol. 11, no. 21, p. 10442, Nov. 2021. <http://dx.doi.org/10.3390/app112110442>

A. Vorkapić, R. Radonja, S. Martinčić-Ipšić. Predicting Seagoing Ship Energy Efficiency from the Operational Data. *Sensors*, 21, 2832, 2021. <https://doi.org/10.3390/s21082832>

A. Vorkapić, R. Radonja, S. Martinčić-Ipšić. A Framework for the Application of Shipboard Energy Efficiency Monitoring, Operational Data Prediction and Reporting. *Pomorstvo-Scientific Journal of Maritime Research*, 35(1), 3-15. 2021. <https://doi.org/10.31217/p.35.1.1>

A. Vorkapić, R. Radonja, K. Babić, S. Martinčić-Ipšić. Machine learning methods in monitoring operating behaviour of marine two-stroke diesel engine. *Transport*, 35(5), 474-485. 2020. <https://doi.org/10.3846/transport.2020.14038>

K. Babić, F. Guerra, S. Martinčić-Ipšić, A. Meštrović. A Comparison of Approaches for Measuring the Semantic Similarity of Short Texts Based on Word Embeddings,

Journal of information and organizational sciences, 44(2); 231-246. 2020.
<https://doi.org/10.31341/jios.44.2.2>

K. Babić, S. Martinčić-Ipšić, A. Meštrović. Survey of Neural Text Representation Models. *Information*, 11(2020), pp. 511-543, 2020. doi:10.3390/info11110511

Đ. Vukić, S. Martinčić-Ipšić, A. Meštrović. Structural Analysis of Factual, Conceptual, Procedural, and Metacognitive Knowledge in a Multidimensional Knowledge Network. *Complexity*, pp. 1-17, 2020. <https://doi.org/10.1155/2020/9407162>

Đ. Vukić, S. Martinčić-Ipšić, A. Meštrović. Structural Analysis of Factual, Conceptual, Procedural, and Metacognitive Knowledge in a Multidimensional Knowledge Network. *Complexity*, pp. 1-17, 2020. <https://doi.org/10.1155/2020/9407162>

S. Martinčić-Ipšić, T. Miličić, Lj. Todorovski. The Influence of Feature Representation of Text on the Performance of Document Classification. *Applied Sciences*, vol. 9(4), pp. 743-770, 2019.

J. Jokić, S. Martinčić-Ipšić. Predicting the Outcome of the Chess Game Represented as Complex Network with Random Forest Classifier. *Journal of the Polytechnic of Rijeka*, vol. 7(1), pp. 31-52, 2019.

S. Beliga, I. Ipšić, S. Martinčić-Ipšić. Evaluation of language models over Croatian newspaper texts. *Information Technology and Control*, vol. 46(4), pp. 425-444, 2017.

S. Martinčić-Ipšić, E. Močibob, M. Perc. Link prediction on Twitter. *PLOS ONE* 12(7): e0181079. 2017. <https://doi.org/10.1371/journal.pone.0181079>

N. Matas, A. Meštrović, S. Martinčić-Ipšić. Comparing Network Centrality Measures as Tools for Identifying Key Concepts in Complex Networks: A Case of Wikipedia, *Journal of Digital Information Management (JDIM)*, vol. 15(4), pp. 203-213, 2017.

R. Piltaver, M. Luštrek, M. Gams, S. Martinčić-Ipšić. What makes classification trees comprehensible?, *Expert Systems with Applications*, vol. 62, pp. 333-346, 2016. <http://dx.doi.org/10.1016/j.eswa.2016.06.009>.

S. Beliga, A. Meštrović, S. Martinčić-Ipšić. Selectivity-Based Keyword Extraction Method. *International Journal on Semantic Web and Information Systems (IJSWIS)*, vol.12(3), pp. 1-26, 2016.

S. Martinčić-Ipšić, D. Margan, A. Meštrović, Multilayer Network of Language: a Unified Framework for Structural Analysis of Linguistic Subsystems. *Physica A: Statistical Mechanics and its Applications*, vol. 457, pp. 117--128, 2016. <http://dx.doi.org/10.1016/j.physa.2016.03.082>

A. Meštrović, S. Martinčić-Ipšić; M. Matešić; Syllabification based on maximal onset principle for Croatian/Postupak automatskoga slogovanja temeljem načela najvećega pristupa i statistika slogova za hrvatski jezik. *Govor/Speech*, vol. 32(1), pp. 3-34, 2015.

S. Beliga; A. Meštrović; S. Martinčić-Ipšić. An Overview of Graph-Based Keyword Extraction Methods and Approaches. *Journal of Information and Organizational Sciences*, vol. 39(1), pp. 1-20, 2015.

M. Pobar; S. Martinčić-Ipšić; I. Ipšić. Optimization of Cost Function Weights for Unit Selection Speech Synthesis Using Speech Recognition. *Neural network world*. vol. 22(5), pp. 429-441, 2012.

- S. Martinčić-Ipšić; M. Pobar; I. Ipšić. Croatian Large Vocabulary Automatic Speech Recognition. *Automatika*. vol. 52(2), pp. 147-157, 2011.
- S. Martinčić-Ipšić; S. Ribarić; I. Ipšić. Acoustic Modelling for Croatian Speech Recognition and Synthesis. *Informatica*. vol. 19(2), pp. 227-254, 2008.
- A. Meštrović; L. Bernić; M. Pobar; S. Martinčić-Ipšić; I. Ipšić. A Croatian Weather Domain Spoken Dialog System Prototype. *CIT. Journal of computing and information technology*. vol. 18(4), pp. 309-316, 2010.
- M. Pobar; S. Martinčić-Ipšić; I. Ipšić. Računalni sustav za tvorbu hrvatskoga govora. *Engineering review : znanstveni časopis za nove tehnologije u strojarstvu, brodogradnji i elektrotehnici*. vol. 28(2), pp. 31-44, 2008.
- A. Meštrović; S. Martinčić-Ipšić; M. Čubrilo. Weather Forecast Data Semantic Analysis in F-Logic. *Journal of Information and Organizational Sciences*. vol. 31(1), pp. 115-129, 2007.
- S. Martinčić-Ipšić; I. Ipšić. Croatian HMM-based Speech Synthesis. *Journal of Computing and Information Technology, CIT*. vol. 14(4), pp. 307-31, 2006.
- S. Martinčić-Ipšić; M. Matešić; I. Ipšić. Korpus hrvatskoga govora. *Govor: časopis za fonetiku*. I(2), pp. 135-150, 2004.

Books

- S. Martinčić-Ipšić, M. Ivašić Kos, S. Beliga. *INFCON23 Proceedings*, University of Rijeka, Faculty of Informatics and Digital Technologies. Rijeka, 2023.
- S. Martinčić-Ipšić, M. Ivašić Kos, S. Beliga. *INFCON22 Proceedings*, University of Rijeka, Faculty of Informatics and Digital Technologies. Rijeka, 2022.
- S. Martinčić-Ipšić, A. Meštrović, *The Language Networks*, University of Rijeka, Department of Informatics. Rijeka, 2018.

Book chapters

- S. Beliga, S. Martinčić-Ipšić, M. Matevsić, A. Meštrović. Natural language processing and statistic: the first six months of the COVID-19 infodemic in Croatia. In: Kopecka-Piech K, Łódzki B, editors. *The Covid-19 pandemic as a challenge for media and communication studies*. London: Routledge-Taylor & Francis Group; 2022.
- S. Beliga, A. Meštrović, S. Martinčić-Ipšić. Keyword Extraction Based on Selectivity and Generalized Selectivity. *Innovations, Developments, and Applications of Semantic Web and Information Systems*. M. Lytras, N. Aljohani, E. Damiani, K. T Chui (ed.), Hershey, PA, USA: IGI Global, pp. 170-204, 2018.
- S. Šišović, S. Martinčić-Ipšić, A. Meštrović. Toward Network-based Keyword Extraction from Multitopic Web Documents. *Social sciences via network analysis and computation*, Kanduč, Tadej (ed.), Frankfurt am Main, Berlin, Bern, Bruxelles, New York, Oxford, Wien: Peter Lang, pp. 39-52, 2015.
- H. Rizvić, S. Martinčić-Ipšić, A. Meštrović. Network Motifs Analysis of Croatian Literature. *Social sciences via network analysis and computation*, Kanduč, Tadej (ed.), Frankfurt am Main, Berlin, Bern, Bruxelles, New York, Oxford, Wien: Peter Lang, pp. 29-38, 2015.

R. Piltaver, M. Luštrek, M. Gams, S. Martinčić-Ipšić. Comprehensibility of Classification Trees – Survey Design Validation. *Social sciences via network analysis and computation*, Kanduč, Tadej (ed.), Frankfurt am Main, Berlin, Bern, Bruxelles, New York, Oxford, Wien: Peter Lang, pp. 89-112, 2015.

D. Margan; S. Martinčić-Ipšić; A. Meštrović. Preliminary Report on the Structure of Croatian Linguistic Co-occurrence Networks. *Towards Solving the Social Science Challenges with Computing Methods*. Mileva Boshkoska, Biljana (ed.). Frankfurt am Main, Berlin, Bern, Bruxelles, New York, Oxford, Wien : Peter Lang, pp. 93-104. 2015.

L. Načinović; S. Martinčić-Ipšić. Prosodic Modelling for Croatian Speech Synthesis. *Towards Solving the Social Science Challenges with Computing Methods*. Mileva Boshkoska, Biljana (ed.). Frankfurt am Main, Berlin, Bern, Bruxelles, New York, Oxford, Wien : Peter Lang, pp. 105-118. 2015.

D. Margan, S. Martinčić-Ipšić and A. Meštrović. Network Differences Between Normal and Shuffled Texts: Case of Croatian. *Studies in Computational Intelligence, Complex Networks V*. Vol.549. Springer pp. 275-283, 2014.

Ipšić, Ivo; S. Martinčić-Ipšić. Croatian Speech Recognition. *Advances in Speech Recognition*, Noam R. Shabtai (ed.). Rijeka, Croatia : SCIYO, pp. 123-140, 2010.

Selected conference proceedings

A. Poleksić, S. Martinčić-Ipšić, Wikidata Hierarchy for Named Entity Type Discovery in the Climate Change Domain. In *Joint Proceedings of the Fourth International Workshop on LLM-Integrated Knowledge Graph Generation From Text (TEXT2KG) and the Second International BiKE Challenge co-located with the Extended Semantic Web Conference (ESWC 2025)* (pp. 90-115). Portorož: CEUR. 2025.

V. Davidović, S. Martinčić-Ipšić, Fine-Tuning BART for Croatian Abstractive Text Summarization Using a Novel News Dataset, 2025 MIPRO 48th ICT and Electronics Convention, AIS, Opatija, Croatia, pp. 111-117, 2025.

A. Poleksić, S. Martinčić-Ipšić, Towards Dataset for Extracting Relations in the Climate-Change Domain. In *3rd International workshop on knowledge graph generation from text (TEXT2KG) and Data Quality meets Machine Learning and Knowledge Graphs (DQMLKG)*, Hersonissos, Greece, May 26-30, 2024, pp. 15-23 CEUR, 2024.

A. Poleksić, S. Martinčić-Ipšić, Effects of Pretraining Corpora on Scientific Relation Extraction Using BERT and SciBERT. In *SEMANTICS 2023 EU*, Leipzig 20-22-9-2023. CEUR, pp. 1-21, 2023.

A. Krivičić, S. Martinčić-Ipšić. Analyzing Sentiment of Reddit Posts for the Russia-Ukraine War, 46. MIPRO, 2023.

A. Poleksić, S. Martinčić-Ipšić, Sentiment of the Tweets on Russo-Ukrainian War: the Social Network Analysis, 46. MIPRO- AIS, 2023.

P. K. Bogović, A. Meštrović, S. Martinčić-Ipšić. Topic Modeling for Tracking COVID-19 Communication on Twitter. In *International Conference on Information and Software Technologies, CIST 2022*. *Communications in Computer and Information Science*, Springer, Cham. vol 1665. pp. 248-258. 2022.

- P. K. Bogović, D. Aljević, B. Kovačić, S. Martinčić-Ipšić. The NLP Powered BI Toolkit: The Case of MESO. *IEEE MIPRO 2022 - DE-DS (MIPRO'22)*, pp. 1348-1353, 2022.
- P. K. Bogović, F. Molinari, B. Kovačić, S. Martinčić-Ipšić. Generation and Semantic Expansion of Impacts in Arts and Culture, *Advances in Information and Communication, Proceedings of the 2022 Future of Information and Communication Conference (FICC), Volume 1*, Kohei, Arai (ur.). San Francisco, USA: Springer International Publishing, 76-94, 2022.
- K. Babić, M. Petrović, S. Beliga, S. Martinčić-Ipšić, A. Jarynowski, A. Meštrović, COVID-19-Related Communication on Twitter: Analysis of the Croatian and Polish Attitudes, *Proceedings of Sixth International Congress on Information and Communication Technology, Lecture Notes in Networks and Systems*, Springer, Singapore, 379–390, 2022.
- P. K. Bogović, A. Meštrović, S. Beliga, S. Martinčić-Ipšić. Topic Modelling of Croatian News During COVID-19 Pandemic. *IEEE MIPRO 2021 - CIS (MIPRO'21)*, pp. 1205-1212, 2021.
- D. Aljević, Lj. Todorovski, S. Martinčić-Ipšić. Extractive Text Summarization Based on Selectivity Ranking. *IEEE International Conference on INnovations in Intelligent SysTems and Applications (INISTA'21)*, pp. 1-6, 2021.
- K. Babić, M. Petrović, S. Beliga, S. Martinčić-Ipšić, M. Pranjić, A. Meštrović. Prediction of COVID-19 Related Information Spreading on Twitter, *IEEE MIPRO 2021 (MIPRO'21)*, pp. 395-399, 2021.
- A. Meštrović, S. Beliga, K. Babić, M. Petrović, S. Martinčić-Ipšić. An introduction to the multilayer network for characterisation of information spreading related to the COVID-19 crisis *Proceedings of the COSTNET Covid conference*. Kauermann, G., Reinert, G., Wit, E. Munich, Germany: Department of Statistics at LMU Munich, 8.1.2020.
- S. Beliga, Kitanović, O., Stanković, R., S. Martinčić-Ipšić. "Keyword Extraction from Parallel Abstracts of Scientific Publications". *Semantic Keyword-Based Search on Structured Data Sources LNCS 10546*, Szymański, J., Velegrakis, Y. (ed.). Cham : Springer International Publishing, COST Action IC1302 Third International KEYSTONE Conference, IKC 2017, Gdańsk, Poland, pp. 44-45, 2018.
- S. Beliga, S. Martinčić-Ipšić. Network-Enabled Keyword Extraction for Under-Resourced Languages. *Semantic Keyword-Based Search on Structured Data Sources LNCS 10151*, Cali, A., Gorgan, D., Ugarte, M. (ur.). Cham : Springer International Publishing, COST Action IC1302 Second International KEYSTONE Conference, Cluj-Napoca, Romania, pp. 124-135, 2017.
- S. Martinčić-Ipšić, T. Miličić, A. Meštrović. Text Type Differentiation Based on the Structural Properties of Language Networks. *Information and Software Technologies, 22st International Conference, ICIST 2016, Lithuania*, (eds). G. Dregvaite and R. Damasevicius, *Communications in Computer and Information Science*, Springer International Publishing, Vol. 639, pp. 536-548, 2016.
- S. Martinčić-Ipšić, E. Močibob, A. Meštrović. Link Prediction on Tweets' Content. *Information and Software Technologies, 22st International Conference, ICIST 2016, Lithuania*, (eds). G. Dregvaite and R. Damasevicius, *Communications in Computer and Information Science*, Springer International Publishing, Vol. 639, pp. 559-567, 2016.

- T. Ban Kirigin, A. Meštrović, S. Martinčić-Ipšić. Towards a Formal Model of Language Networks. Information and Software Technologies ICIST 2015, Lithuania, eds). G. Dregvaite and R. Damasevicius, Communications in Computer and Information Science, Springer International Publishing, Vol. 538, pp. 469-479, 2015.
- E. Močibob, S. Martinčić-Ipšić, A. Meštrović. Revealing the structure of domain specific tweets via complex networks analysis, MIPRO, SP, 2016, Opatija, Croatia, 1904-1908, 2016.
- N. Matas; S. Martinčić-Ipšić; A. Meštrović. Extracting Domain Knowledge by Complex Networks Analysis of Wikipedia Entries. IEEE MIPRO 2015. pp. 1955-1960, 2015.
- H. Rizvić; S. Martinčić-Ipšić; A. Meštrović. Network Motifs Analysis of Croatian Literature. 6th International Conference on Information Technologies and Information Society (ITIS2014). Novo mesto, Slovenija, 2014.
- S. Šišović; S. Martinčić-Ipšić; A. Meštrović. Toward Network-based Keyword Extraction from Multitopic Web Documents. 6th International Conference on Information Technologies and Information Society (ITIS2014). Novo mesto, Slovenija, 2014.
- S. Beliga; S. Martinčić-Ipšić. Node Selectivity as a Measure for Graph-Based Keyword Extraction in Croatian News. 6th International Conference on Information Technologies and Information Society (ITIS2014). Novo mesto, Slovenija, 2014.
- S. Beliga; A. Meštrović; S. Martinčić- Ipšić. Toward Selectivity Based Keyword Extraction for Croatian News. Surfacing the Deep and the Social Web (SDSW 2014). CEUR Proc. Vol. 1310, pp.1-8. 2014.
- R. Piltaver; M. Luštrek; M. Gams; S. Martinčić-Ipšić. Comprehensibility of Classification Trees – Survey Design Validation. 6th International Conference on Information Technologies and Information Society - ITIS2014. Novo mesto, Slovenija, 2014.
- R. Piltaver; M. Luštrek; M. Gams; S. Martinčić-Ipšić. Comprehensibility of classification trees: survey design. Intelligent Systems IS 2014 (Volume A), Institut Jožef Stefan, Ljubljana, pp. 70-74, 2014.
- D. Margan, A. Meštrović and S. Martinčić-Ipšić. Complex Networks Measures for Differentiation between Normal and Shuffled Croatian Texts. IEEE MIPRO 2014, Croatia, pp.1819-1823, 2014.
- S. Beliga; S. Martinčić-Ipšić. Non-Standard Words as Features for Text Categorization. IEEE MIPRO 2014, Croatia, pp. 1415-1419, 2014.
- S. Šišović, S. Martinčić-Ipšić and A. Meštrović. Comparison of the language networks from literature and blogs. IEEE MIPRO 2014, Croatia, pp. 1824-1829, (2014).
- D. Margan; S. Martinčić-Ipšić; A. Meštrović. Preliminary Report on the Structure of Croatian Linguistic Co-occurrence Networks. 5th International Conference on Information Technologies and Information Society, Slovenia, pp. 89-96, 2013.
- K. Ban; A. Meštrović; S. Martinčić-Ipšić. Initial Comparison of Linguistic Networks Measures for Parallel Texts. 5th International Conference on Information Technologies and Information Society-ITIS 2013, Slovenija, pp. 97-104, 2013.

- L. Načinović; B. Perak; A. Meštrović; S. Martinčić-Ipšić. Identifying Fear Related Content in Croatian Texts. 8th Language Technologies Conference, Slovenia, pp. 153-156, 2012.
- S. Beliga; S. Martinčić-Ipšić. Text Normalization for Croatian Speech Synthesis. MIPRO junior, Vol. V./D. IEEE, pp. 382-387, 2011.
- S. Beliga; M. Pobar; S. Martinčić-Ipšić. Normalization of Non-Standard Words in Croatian Texts. Text, Speech and Dialogue extension to Lecture Notes in Artificial Intelligence LNAI6836. Czech, pp. 1-9, 2011.
- L. Načinović; M. Pobar; S. Martinčić-Ipšić; I. Ipšić. Automatic Intonation Event Detection Using Tilt Model for Croatian Speech Synthesis. INFUTURE2011, Croatia, pp. 383-391, 2011.
- A. Meštrović; L. Bernić; M. Pobar; S. Martinčić-Ipšić; I. Ipšić. Overview of a Croatian Weather Domain Spoken Dialogue System Prototype. 32nd International Conference on Information Technology Interfaces-ITI2010, pp. 103-108, 2010.
- L. Načinović; S. Martinčić-Ipšić; I. Ipšić. Intonation Modeling for Croatian Speech Synthesis. 33rd International Convention on Information and Communication Technology, Electronics and Microelectronics-MIPRO 2010, Vol. 3 - CIT, IEEE, pp. 253-257, 2010.
- S. Martinčić-Ipšić; M. Pobar; I. Ipšić. Automatic Evaluation of Synthesized Speech. 31st International Conference on Information Technology Interfaces-ITI2009, pp. 305-310, 2009.
- L. Načinović; S. Martinčić-Ipšić; I. Ipšić. Statistical Language Models for Croatian Weather-domain Corpus. pp. 333-340, 2009.
- L. Načinović; M. Pobar; I. Ipšić; S. Martinčić-Ipšić. Grapheme-to-Phoneme Conversion for Croatian Speech Synthesis. 32nd International Convention on Information and Communication Technology, Electronics and Microelectronics MIPRO2009. Vol(3)-CIT. IEEE, pp. 318-323, 2009.
- L. Bernić; S. Martinčić-Ipšić; I. Ipšić. A Croatian Spoken Dialog Manager Prototype. 31st international convention on information and communication technology, electronics and microelectronics-MIPRO2008, IEEE, pp. 199-203, 2008.
- A. Meštrović; S. Martinčić-Ipšić; I. Ipšić. Semantic Analysis in F-logic. Semantic Representation of Spoken Language 2007, DFKI, Salamanca, 59-66, 2007.
- S. Martinčić-Ipšić; J. Žibert; I. Ipšić; F. Mihelič; N. Pavešić. Bilingual Speech Recognition for Weather Information Retrieval Dialog System. 6th International Conference on Text, Speech and Dialogue-TSD2003, Springer, pp. 380-387, 2003.
- J. Žibert; S. Martinčić-Ipšić; M. Hajdinjak; I. Ipšić; F. Mihelič. Development of a Bilingual Spoken Dialog System for Weather Information Retrieval. 8th European Conference on Speech Communication and Technology-EUROSPEECH2003. Geneva, ISCA, pp. 1917-1920, 2003.

Invited talks

- From Text to Insight: Enhancing Relation Extraction in Climate Change Research”, Data Analysis Methods for Software Systems, Druskininkai, Lithuania, November 28 - 30, 2024.
- Under Construction: From Text to Insight with Relation Extraction in Climate Change Research, Geek Gathering 2024, Osijek 2024.

- Where are we Heading with Generative Artificial Intelligence? Insights into Technology, Challenges, and Reshaping of the Labor Market, ENTRENOVA 2024, Dubrovnik 2024.
- Revealing Key Concepts and Relations in Climate Change, Data Science Week 2024, Amsterdam 2024.
- Generative artificial intelligence: technology, challenges and economic benefits, CASE conference, Zagreb 2024
- MESOC Toolkit and Document Repository. MESOC Conference: Exploring and assessing the societal impacts of culture 2023, Paris, 9-10.3.2023.
- BI Toolkit Powered by Natural Language Processing, Data Science Conference DSC Europe 2022, Belgrade, 17.11.2022.
- Natural Language Processing: the Case of Integration in Business Intelligence, Faculty of Organizational Sciences, University of Belgrade, 16.11.2022.
- Multidimensional Knowledge Network: Modelling of Factual, Conceptual, Procedural, and Metacognitive Knowledge. 12th International Conference on Information Technologies and Information Society, ITIS2021, keynote talk, 5.11.2021.
- Natural Language Processing 4 for Policy Texts Analytics. Artificial Intelligence for Policy Making Workshop, Social & Creative project, Interreg MED programme, online, 22.3.2021.
- Extracting Keywords from Texts, Data Science Conference 4.0, Belgrade, 18.9.2018.
- Multilayer Language Networks (Večplastna jezikovna omrežja), NetSLO 2017, Faculty of Computer Science and Informatics, University of Ljubljana, 26.1.2017.
- Language Networks: A multilayered perspective, Faculty of Informatics, Kaunas University of Technology, 12.10.2016.
- Language Networks, Faculty of Computer Science and Engineering, Skopje, 5.5.2016.
- Big Data, Faculty of Information and Communication Technologies, Bitola, 3.5.2016.
- Language Networks, Faculty of Electrical Engineering and Computing, Croatian Society for Language Technologies, Zagreb, 15.5.2014.
- Hidden Markov Models for Speech Technologies, Scientific colloquium, Mathematicians and Physicists Society, Rijeka, 24.05.2012.
- Croatian Speech Recognition and Synthesis Based on Context-Dependent Hidden Markov Models. CyberTechs Society, Rijeka 9.4.2008.

AWARDS

- **UNIRI Excellence in Teaching** award, University of Rijeka, 2023. 15.5.2023.
- LangNet project, received the **UNIRI Excellence Awards in Science** ranked 1st in Social Sciences, University of Rijeka, 2022. 1.2.2023
- Nominated for full membership to **Sigma Xi-The Scientific Research Honor Society**, 23.11.2022
- LangNet project, received the **UNIRI Excellence Awards in Science** ranked 1st in Social Sciences, University of Rijeka, 2021. 1.2.2022
- LangNet project, received the **UNIRI Excellence Awards in Science** ranked 1st in Social Sciences, University of Rijeka, 2020. 11.12.2020
- **1st Technology Transfer** award by University of Rijeka Foundation and company Alarm automatika, with A. Meštrović and M. Matešić 15.11.2019

GRANTS

- European Social Fund and Republic of Slovenia grant, Visiting Teachers and Experts Faculty of Information Studies, Novo mesto, November 2020.
- European Social Fund and Republic of Slovenia grant, Visiting Teachers and Experts University of Maribor, Faculty of Organizational Sciences, Kranj, May 2018.
- European Social Fund and Republic of Slovenia grant, Visiting Teachers and Experts University of Ljubljana, Faculty of Administration, Ljubljana, April 2017.
- Erasmus+ grant, Visiting professor, Faculty of Information and Communication Technologies, St. Kliment Ohridski University, Bitola, Macedonia, 2016.

- TransTech13 grant, University of Rijeka Science Foundation, 2013.
- Research Class grant, University of Rijeka Science Foundation, 2010, 2011, 2012.
- Erasmus grant, Visiting professor, University of Ljubljana, Slovenia, 2010.
- MSc grant, Health Insurance Institute of Slovenia, 1996-1999.

ACADEMIC
SERVICE

- **Editor:**
 - **Informatica**, An International Journal of Computing and Informatics, ISSN: 0350-5596, January 2015-
<http://www.informatica.si/>
 - **PLOS ONE**, eISSN: 1932-6203, 2018-2023.
<http://journals.plos.org/plosone/static/editorial-board>
 - International Journal of Emerging Research and Solutions in ICT, eISSN: 1857-9981, April 2015-
<http://www.ersict.org/editorialboard/>
- **Guest Editor:** PlosONE (2018), CIT (2017)
- **Reviewer International Journals:**
IEEE Transactions on Computational Social Systems(2024,2023); Engineering Applications of Artificial Intelligence (2024,2022); IEEE Access (2022); CEJOR (2022); MDPI Applied Sciences (2020); Scientometrics (2020); Business Systems Research Journal (2020); IEEE Transactions on Industrial Informatics (2019); MDPI Sensors (2019); MDPI Electornics (2019); Computational and Mathematical Methods in Medicine (2018); Electronic Markets (2018); Infor-mation Processing Letters (2018); Computer Science and Information Systems ComSIS (2017); Scientific Reports (2017); Information Technology and Control (2017); Inter-national Journal on Semantic Web and Informa-tion Systems (IJSWIS) (2017); International Journal of Data Mining and Bioinforma-tics (2017); MDPI Information (2017); Expert Systems with Applications, Elsevier (2016); Physica A: Statistical Mechanics and its Applications, Elsevier (2016); PLoS ONE (2018, 2017, 2016, 2015); Transactions on Computational Collective Intelligence, Springer, (2015); Jour-nal of Complex Networks (2014); CIT (2017, 2016, 2012); Automatika (2014, 2011, 2010)
- **Projects / Grants Panel:**
Croatian Science Foundation, 2025, 2022, 2017 - 2019
SMASH Marie Skłodowska-Curie Actions COFUND program 2024 - 2025 .
- **Projects / Grants Reviewer:** Croatian Science Foundation, UNIRI Projects; SMASH
- **General Chair:** INFCON - Scientific Conference for PhD Students in Informatics (2022-2023.)
- **Session Chair:**
Artificial Intelligence/Data Science Chair, 36th Bled eConference, 25-28.6.2023, Bled, Slovenia.
Artificial Intelligence/Data Science Chair, 35th Bled eConference, 26-29.6.2022, Bled, Slovenia.
Artificial Intelligence/Data Science Chair, 34th Bled eConference, 27-30.6.2021, Bled, Slovenia.
Big Data/Data Science Chair, 33rd Bled eConference, 28.6-1.7.2020, Bled, Slovenia.
4th International Workshop on Language Technologies and Applications (LTA'19), Leipzig, Germany, Poznan, Poland, part of IEEE Federated Conference on Computer Science and Information Systems,1-4.9.2019.; IEEE
Big Data/Data Science Chair, 32nd Bled eConference, 16-19.6.2019, Bled, Slovenia.
3rd International Workshop on Language Technologies and Applications (LTA'18), Poznan, Poland, part of IEEE Federated Conference on Computer Science and Information Systems, 9-12.9.2018.; IEEE
Big Data/Data Science Chair, 31st Bled eConference, 17-20.6.2018, Bled, Slovenia.
3rd International KEYSTONE Conference IKC 2017, Gdansk Poland, 11-12 September

2017.

2nd International Workshop on Language Technologies and Applications (LTA'17), Prague, part of IEEE Federated Conference on Computer Science and Information Systems, 3-7.9.2017.; IEEE

3rd International KEYSTONE Conference IKC 2017, Gdansk Poland, 11-12 September 2017.

Information Technology Applications, Special Session on Language Technologies, 22nd International Conference, ICIST 2016, Druskininkai, Lithuania, October 13-15, 2016.

1st International Workshop on Language Technologies and Applications (LTA'16), Gdansk, part of IEEE Federated Conference on Computer Science and Information Systems, 2016;

Challenge Track, 2nd International KEYSTONE Conference - IKC 2016, Cluj-Napoca, Romania;

Challenge Track, 1st International KEYSTONE Conference - IKC 2015, Coimbra Portugal;

International Conference on Information Technologies and Information Society - ITIS, Novo mesto (2015, 2014, 2013)

- **Program Committee Member:**

ECAI (2025,2024), ISD (2025,2024), Language Technologies (2024, 2022); European Data Science Conference (2025, 2023, 2022, 2020); ICIST (2025, 2024, 2023, 2022, 2021, 2020, 2019, 2018, 2017, 2016, 2015, 2014); MADEISD/ ADBIS (2025,2024, 2023, 2022, 2021, 2020, 2019); Data Science Summit (2022, 2019); Discovery Science (2019); Baltic DB&IS (2018); Bled eConference (2023, 2022, 2021, 2020, 2019, 2018), LTA (2020, 2019, 2018, 2017, 2016), IVUS (2017), IKC (2017, 2016, 2015), PRMI (2015), ACECS (2015), ITIS (2019, 2018,2017, 2016, 2015, 2014, 2013), TransTech2013, Research Class (2012, 2011, 2010).

- **Panel/Round Table Chair:**

Panel: Who & how will educate future AI experts & Data Scientist, Data Science Adria Conference, Zagreb, 17.05.2023.

Data Science Adria Summit: Chairing round table on Colaboration between Industry and Academia, Data Science Adria Conference, Zagreb, 16.05.2023.

Data Science Summit: Chairing round tables on Colaboration between Industry and Academia, Data Science Europe Conference, Belgrade, 19-21.11.2022.

Data Science Adria Summit: Chairing round table on Colaboration between Industry and Academia, Data Science Adria Conference, Zagreb, 8.05.2022.

Women in Data Science Conference, Zagreb, 4-5.3.2020.

Data Science Summit: Chairing round tables on Graphs and on Text Technologies and AI chat bots, Data Science Conference 5.0, Belgrade, 19-21.11.2019.

- **Conference Paper Reviewer:**

Conference on Knowledge-Based and Intelligent Information & Engineering Systems, MIPRO, LT, ITIS, ITI 2008 - present

- **Advisory Board:**

Lumen Data Science, student competition 2019, 2020, 2021, 2022, 2023, 2024, 2025

TEACHING EXPERIENCE

Undergraduate courses

Introduction to Computer Science, IT Project Management, Theoretical Computing, Faculty of Informatics and Digital Technologies, University of Rijeka 2009-present
Introduction to Parsers and Compilers, Department of Informatics, University of Rijeka 2009-2020

Graduate courses

Big Data Engineering, Predictive Analytics, MLOps, Faculty of Informatics and Digital Technologies, University of Rijeka 2023-present
Natural Language Processing, Faculty of Informatics and Digital Technologies University of Rijeka 2009-present
Business Intelligence, Department of Informatics, University of Rijeka 2009-2022

PhD courses

Information Retrieval and Text Mining,
Faculty of Informatics and Digital Technologies, University of Rijeka 2013-present
Research Methodology,
Faculty of Informatics and Digital Technologies, University of Rijeka 2019-present
Business Intelligence,
Faculty of Informatics and Digital Technologies, University of Rijeka 2013-2022

PhD Thesis supervision

S. Beliga, Keyword Extraction Based on Structural Properties of Language Complex Networks, PhD in Informatics, Department of Informatics, University of Rijeka 7.10.2019

A. Vorkapić, A Model of Monitoring and Prediction of Energy Efficiency and Carbon Dioxide Emission in Case of Liquefied Petroleum Gas Carrier, co-supervising, PhD in Maritime Studies, Faculty of Maritime Studies, University of Rijeka 7.02.2020

Master and bachelor supervision

29 Master Thesis supervised, Department of Informatics, Department of Mathematics, Faculty of Maritime Studies, University of Rijeka 2010-present

20 Bachelor Thesis supervised, Department of Informatics, Faculty of Humanities and Social Sciences, University of Rijeka 2010-present

- Supervised student Slobodan Beliga, for his Thesis received the University of Rijeka Rector's Award, 2011.
- Supervised student Tanja Miličić, received the University of Rijeka Rector's Award, scholarship for excellence and award for student scientific publication, 2017.

Committee member

2 PhD defense, Faculty of Information studies, Novo mesto, Slovenia, 2017, 2018

1 PhD defense, Institute Jožef Stefan, Ljubljana, Slovenia, 2016

4 PhD defense, Faculty of Humanities and Social Sciences, University of Zagreb, Croatia, 2016, 2019, 2023

PhD defenses, Department of Informatics, University of Rijeka, Croatia, 2019-present

Master Thesis defenses, Department of Informatics, University of Rijeka, Croatia, 2009-present

Bachelor Thesis defenses, Department of Informatics, University of Rijeka, Croatia, 2007-present

PROFESSIONAL SERVICE

- **AZVO** 2024-
- **NAKVIS** 2021 - 2023.
- **UNIRI Council** 2021 - 2024.
- **UNIRI Ethical Committee** 2018 - 2021.
- **ISVU Coordinator** 2007 - 2021.
- **MOZVAG Coordinator** 2008 - 2012.

PROFESSIONAL PROJECTS

- **Project co-manager:** National IS for complementary health insurance, Vzajemna, Health Insurance Institute, Slovenia, 1997-2001.
- **IT Consultant:** National IS for compensations in health insurance, Health Insurance Institute, Slovenia, 1998-2000.
- **Developer:** National health insurance card, Health Insurance Institute, Slovenia, 1997-1999.

PROFESSIONAL MEMBERSHIPS

Croatian Language Technologies Society. Slovene Language Technologies Society. CyberTechs Society

LANGUAGES

Fluent: Croatian, Slovene, English *Working proficiency:* German, Italian

PRIVAT

Married and mother of two children (born in 2000, 2004).