







# Marija Stanojevic, Ph.D.

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## Research Interest

- Multi-modal Learning, Deep Learning, Transfer Learning, Natural Language Processing, Complex and Structured Data, Bioinformatics, Computational Healthcare and Biology

## Employment History

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|--|---|
| Aug 2022 –<br>Cambridge Cognition        | <ul style="list-style-type: none"><li><b>Applied Machine Learning Scientist</b>, Toronto, ON, Canada.</li><li>Multi-modal (speech, text, domain features) deep learning prediction of cognitive and mental health diseases (Transformers, CNN, Python, PyTorch, Docker, AWS).</li><li>General Chair of Machine Learning for Cognitive and Mental Health Workshop @ AAAI 2024 (Research, Project Lead, Team Lead).</li><li>Collaborating with pharmaceutical companies on various client projects.</li></ul>   |
| Jan 2017 – May 2022<br>Temple University | <ul style="list-style-type: none"><li><b>Fellow, Research (RA) and Teaching Assistant (TA)</b>, Philadelphia, PA, USA.</li><li><b>RA</b> (Sep - May 2017/18, 2020/21): NSF, NIH, CDC, and IQVIA funded projects (Transformers, RNN, DL, NLP, Graphs, IR, Python, Keras, PyTorch).</li><li><b>TA</b> (Sep - May 2018/19, 2020/21, 2021/22). Courses: 1) Knowledge Discovery and Data Mining, 2) Computer and Low-Level Programming, and 3) Data Structures.</li><li><b>Presidential Fellow</b> (Jan 2017 - Aug 2020): awarded based on previous success.</li><li><b>Main Organizer</b> of Mid-Atlantic Student Colloquium on Speech, Language and Learning 2022 (Project Lead, Team Lead).</li></ul> |
| Jun – Aug 2021<br>LinkedIn               | <ul style="list-style-type: none"><li><b>PhD Machine Learning Intern</b>, Philadelphia, PA, USA</li><li>LinkedIn Learning Team - history-based course recommendation with deep learning (DL).</li><li>Tech: Python, Spark, Scala, Keras, Tensorflow, Dali, internal tools.</li></ul>  |
| Jun – Aug 2020<br>Facebook               | <ul style="list-style-type: none"><li><b>PhD Machine Learning Intern</b>, Philadelphia, PA, USA</li><li>History-based extreme-class DL classification at Local Search Infra Team.</li><li>Tech: Python, Presto, PyTorch, Deep Learning (DL), internal tools.</li></ul>  |
| Jun – Aug 2019<br>Facebook               | <ul style="list-style-type: none"><li><b>PhD Machine Learning Intern</b>, Menlo Park, CA, USA</li><li>Natural Language Processing at Recruiting Science Team.</li><li>Tech: Python, Presto, Caffe2, statistical NLP, internal tools.</li></ul>  |
| May – Aug 2018<br>ADS, Conversant        | <ul style="list-style-type: none"><li><b>PhD Data Science Intern</b>, Chicago, IL, USA</li><li>Statistical analysis and clustering of large-volume spatio-temporal data.</li><li>Tech: Hadoop, Hive, python, pandas, geo, folium, geopandas, shapely, rhoncus.</li></ul>  |
| Sep 2015 – Jan 2017                      | <ul style="list-style-type: none"><li><b>Software Engineer</b>, Belgrade, Serbia</li></ul>  |

## Employment History (continued)

Arbor Labs

- Data gathering, cleaning and integration, supervised and unsupervised ML analysis, and visualization (R, Python, MySQL, D3.js).
- Software development with focus on system optimization (ETL, AWS).

## Education

- 2017 – 2023    **Ph.D., Temple University** in Machine Learning and Data Science.  
Thesis title: *Domain Adaptation Applications to Complex High-Dimensional Target Data*
- 2016 – 2017    **M.Eng., University of Belgrade** in Signal Processing.  
Thesis title: *Determination of the Similarity Between the Scientific Papers Using Machine Learning Methods*
- 2010 – 2016    **B.Eng., University of Belgrade** in Software Engineering.

## Peer-Reviewed Research Publications

### Journal Articles

- 1 Stanojevic, M., Andjelkovic, J., Kasprowicz, A., Huuki, L. A., Chao, J., Hedges, S. B., ... Obradovic, Z. (2023). Discovering research articles containing evolutionary timetrees by machine learning. *Bioinformatics (Oxford, England)*, 39(1), btado35.
- 2 Andjelkovic, J., Ljubic, B., Abdel Hai, A., Stanojevic, M., Pavlovski, M., Diaz, W., & Obradovic, Z. (2022). Sequential machine learning in prediction of common cancers. *Informatics in Medicine Unlocked*.
- 3 Tarca, A. L., Pataki, B. Á., Romero, R., Sirota, M., Guan, Y., Kutum, R., ... Yu, T. et al. (2021). Crowdsourcing assessment of maternal blood multi-omics for predicting gestational age and preterm birth. *Cell Reports Medicine*, 2(6), 100323.
- 4 Ljubic, B., Hai, A. A., Stanojevic, M., Diaz, W., Polimac, D., Pavlovski, M., & Obradovic, Z. (2020). Predicting complications of diabetes mellitus using advanced machine learning algorithms. *Journal of the American Medical Informatics Association*, 27(9), 1343–1351.

### Conference Proceedings



- 1 Alshehri, J., Stanojevic, M., Khan, P., Rapp, B., Dragut, E., & Obradovic, Z. (2023). Multilayeret: A unified representation of entities and topics using multilayer graphs. In *Machine learning and knowledge discovery in databases: European conference, ecml pkdd 2022, grenoble, france, september 19–23, 2022, proceedings, part ii* (pp. 671–687). Springer.
- 2 Ehghaghi, M., Stanojevic, M., Akram, A., & Novikova, J. (2023). Factors affecting the performance of automated speaker verification in alzheimer's disease clinical trials.
- 3 Alshehri, J., Stanojevic, M., Dragut, E., & Obradovic, Z. (2022). On label quality in class imbalance setting - a case study. In *Proc. 21st international conference on machine learning and applications, special session on machine learning for natural language processing*. IEEE.
- 4 Diep, B., Stanojevic, M., & Novikova, J. (2022). Multi-modal deep learning system for depression and anxiety detection. In *Empowering communities: A participatory approach to ai for mental health*.
- 5 Stanojevic, M., Norris, L., Kendall, P., & Obradovic, Z. (2022). Predicting anxiety treatment outcomes with machine learning. In *Proc. 21st international conference on machine learning and applications, special session on machine learning in health*. IEEE.

- 6 Alshehri, J., Stanojevic, M., Dragut, E., & Obradovic, Z. (2021). Stay on topic, please: Aligning user comments to the content of a news article. In *European conference on information retrieval* (pp. 3–17). Springer.
- 7 Han, C., Cao, X. H., Stanojevic, M., Ghalwash, M., & Obradovic, Z. (2019). Temporal graph regression via structure-aware intrinsic representation learning. In *Proceedings of the 2019 siam international conference on data mining* (pp. 360–368). SIAM.
- 8 Stanojevic, M., Alshehri, J., Dragut, E. C., & Obradovic, Z. (2019). Biased news data influence on classifying social media posts. In *Newsir@ sigir*.
- 9 Stanojevic, M., Alshehri, J., & Obradovic, Z. (2019). Surveying public opinion using label prediction on social media data. In *2019 ieee/acm international conference on advances in social networks analysis and mining (asonam)* (pp. 188–195). IEEE.
- 10 Ball, S., Stanojevic, M., Knighton, C., Campbell, W., Thaung, A., Fisher, A., ... Zhou, F. et al. (2018). 2474. early feedback from a pilot of a cognitive computing system to analyze immunization data. In *Open forum infectious diseases* (Vol. 5, S741). Oxford University Press.
- 11 Brinkley, J., Ball, S., Thaung, A., Campbell, W., Obradovic, Z., Stanojevic, M., ... Fisher, A. (2018). Exploring the metadata of vaccine-related twitter posts: Just how much activity is there and where does it come from? In *2018 annual research meeting*. AcademyHealth.
- 12 Campogiani, G., Czahajda, R., Mazur, N., & Stanojevic, M. (2014). Involving students in curriculum development. In *Sefi ac 2014*.
- 13 Stanojevic, M., Martinez, I. S., & Mazur, N. (2014). Virtual internships provided in collaboration among companies and universities-the future of practical development of students. In *Inted2014 proceedings* (pp. 6939–6945). IATED.

## Books and Chapters







- 1 Stanojevic, M., Alshehri, J., & Obradovic, Z. (2021). High performance computing for understanding natural language. In *Handbook of research on methodologies and applications of supercomputing* (pp. 133–144). IGI Global.

## Skills

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|-------------|--|
| Proficient  |  <ul style="list-style-type: none"> <li>• Deep Learning, Transformers, NLP, Research, Multimodality, Transfer Learning, Data Science, Data Mining, Algorithms, Data Structures, Information Retrieval.</li> <li>• Python, Keras, PyTorch, C/C++, Java, MySQL, HIVE, Presto.</li> <li>• Team, and Project Lead.</li> </ul> |
| Experienced |  <ul style="list-style-type: none"> <li>• Tensorflow, Hadoop, Bioinformatics, Graphs, CUDA, Docker, Scala, Spark.</li> </ul>  |

## Miscellaneous Experience

### Awards and Achievements

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|-----------|--|
| 2022      |  Outstanding Graduate Teaching Assistant Award - Temple University    |
| 2020-2022 |  Significant contributor at F31 NIH Fellowship                        |
| 2020      |  Grace Hopper Celebration (GHC) Student Scholar                       |
| 2017-2020 |  Temple University Presidential Fellowship                            |
| 2019      |  Broadening Participation in Data Mining travel & participation award |
| 2013      |  Central European Exchange Program for University Studies (CEEPUS)    |

## Miscellaneous Experience (continued)

2012	JoinEUSee (Erasmus Mundus Exchange Program) Scholarship
	German Academic Exchange Service (DAAD) Summer Course Scholarship
2008-2012	Fund for Outstanding Scientific and Art Youth, Ministry of Education, Serbia
2010	Award for the top 1% students in Serbia, The Royal Family of Serbia
2008	Fund for Young Talents, Ministry of Youth, Serbia: outstanding results award

## Certification

2022	<b>Docker Mastery: With Kubernetes + Swarm from a Docker Captain</b>
2021	<b>AI for Medicine Specialization</b> by Deeplearning.ai.
	<b>TensorFlow: Advanced Techniques Specialization</b> by Deeplearning.ai.
2019	<b>Probabilistic Graphical Models Specialization</b> by Stanford @ Coursera.

## Talks

Jul, 2023	Multimodal Machine Learning for Healthcare, University of Toronto, Toronto, ON, Canada
Mar, 2020	Surveying Public Opinion Using Label Prediction on Social Media Data, The 8th Mid-Atlantic Student Colloquium on Speech, Language and Learning
Oct, 2019	Modeling Scientific Texts, Temple University, Philadelphia, PA
Apr, 2019	Workshop: Introduction to Artificial Intelligence and Machine Learning, Temple University, Philadelphia, PA
Aug, 2018	A pilot of a cognitive computing system to analyze immunization data, NSF US-Serbia & West Balkan Data Science Workshop, Belgrade, Serbia
Jun, 2016	ETL with big data implemented in PHP and SQL, PHP Serbia meetup, Belgrade, Serbia
May, 2016	Developing data focused software for insight into education with SCRUM methodology, Faculty of Information Technologies, Metropolitan University, Belgrade, Serbia

## Service and Outreach

Virtual Chair	ICLR 2021, and ICML 2021
Associate Editor	Social Network Analysis and Mining (SNAM) journal, Mar 2021 - current
Reviewer	ACL 2021-current; NAACL 2022-current; ACL ARR 2021-current; EMNLP 2022 - current; ECAI 2023; ECML 2022; EACL 2021; Nature Scientific Reports, 2019; NAACL SRW 2022-current; ACL SRW 2021-current; Informatics in Medicine Unlocked, 2022; NeurIPS ICBINB 2021-2023; GHC - AI track 2021; Diabetes, Metabolic Syndrome and Obesity: Targets and Therapy, 2021; Reproducibility Challenge 2020, 2021; IMMM 2020; SNAM Journal 2019, Mary Ann Liebert: Big Data, 2018-2019
Co-reviewer	KDD 2017
Mentoring	Five undergraduate and four PhD students
Main Organiser	9th Mid-Atlantic Student Colloquium on Speech, Language and Learning (MASC-SLL 2022)
Co-founder	"Research Mixer" - interdisciplinary research gathering (Feb 2019 - Aug 2020)
Volunteer	NeurIPS 2020, ACL 2020, ICML 2020, and ICLR 2020

## Miscellaneous Experience (continued)

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Research Group Lead	■	Serbian AI Society, 2021
Board Member	■	Technical Workshops Chair at STARS Computing Corps Chapter at Temple University (Spring 2019)
Instructor	■	TechGirlz, computer science and machine learning (Feb 2018 - May 2019)
Soft-skills trainer	■	Delivered more than 200 hours of soft-skills and technical skills workshops to STEM students across Europe (Board of European Students of Technology - BEST) (2012 - 2016)
European Management	■	Board of European Students of Technology (BEST) (2012 - 2013)
Co-founder	■	International Science Festival "Science is not Boogeyman" with purpose to promote STEM to students grades 1-12, Nis, Serbia (2008 - 2012)

## Societies

2020-now	■	Member of Association of Computational Linguists (ACL)
2019-now	■	Member of Society for Industrial and Applied Mathematics (SIAM)
2018-now	■	Member of Association for Computing Machinery (ACM)
	■	Member of Association for Computing Machinery on Women (ACM-W)
2010-2016	■	Board of European Students of Technology (BEST)

## References

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Upon request or see LinkedIn