

Marija Stanojevic

Deep Learning. Research. NLP. Bioinformatics. Data Science.

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With a decade of experience in machine learning development and 15 years of leading global outreach initiatives and managing international teams of up to 1,000 people, I bring a unique blend of technical and leadership expertise. My research is centered on cutting-edge deep learning applications in healthcare, bioinformatics, and NLP, with a particular focus on multimodal systems, generative AI, transfer learning, domain adaptation, debiasing techniques, and handling skewed datasets. I maintain strong ties with the global ML research community, collaborating with top experts in both theoretical and applied machine learning. I served as a chair for ICLR 2021 and ICML 2021, and contributed to organizing major conferences such as ACL 2020, ICLR 2020, ICML 2020, and NeurIPS 2020. I serve as an Associate Editor of two journals and as a reviewer at most major ML and NLP conferences. Additionally, I spearheaded two workshops—one standalone in 2022 and another at AAAI 2024.

EXPERIENCE

EUDAIMONIA SCIENCE | ELLIPSIS HEALTH | LEAD APPLIED MACHINE LEARNING SCIENTIST

May - November 2024 | Toronto, ON, Canada

- Led the machine learning team and projects, developing strategic plans and setting priorities for successful project execution.
- Provided direct reports and strategic counsel to both the CEO and CSO.
- Designed a Biomarker-Enabled Real-Time Sensing and helped design a conversational LLM- and RAG-based chatbot system.
- Developed ML documentation and actively participated in fundraising initiatives and customer due diligence calls.
- Played an active role in the recruitment and selection of the company's new CTO and other key technical leadership positions.
- Collaborated with engineering and clinical teams to enhance project outcomes and advance the scientific foundations of products.
- Gave talks at AICamp, Toronto ML Summit 2024 and Digital Mental Health International Congress 2024.
- Directed research initiatives, including academic paper writing, and contributed to patent development.
- **Skills:** LLMs, text processing, speech processing, multimodality, PyTorch, Ollama, Huggingface, Team and Project Leadership, Research, System Design, GCP, AWS.

CAMBRIDGE COGNITION, WINTERLIGHT LABS | APPLIED MACHINE LEARNING SCIENTIST

August 2022 - April 2024 | Toronto, ON, Canada

- Led the development of a multimodal, multilingual automatic framework designed to predict the severity score and category of a disease from a speech sample.
- Led machine learning research initiative including organization of Machine Learning for Cognitive and Mental Health Workshop @ AAAI 2024.
- **Skills:** Transformers, NLP, Python, Speech Processing, HuggingFace, Ollama, PyTorch, Docker, AWS, SpaCy, OpenSmile, Research, Team & Project Lead.

TEMPLE UNIVERSITY | FELLOW, RESEARCH (RA) AND TEACHING ASSISTANT (TA)

January 2017 - May 2022 | Philadelphia, PA, USA

- Research Assistant (Sep - May 2017/18, 2020/21, 2): NSF, NIH, CDC, and IQVIA funded projects (Transformers, RNN, DL, NLP, Graphs, IR, Python, Keras, PyTorch).
- Teaching Assistant (2018/19, 2020/21, 2021/22). Outstanding TA Award 2022.
- Presidential Fellow (Jan 2017 - Aug 2020): awarded based on success.
- Main Organizer of workshop MASC-SLL 2022.
- **Skills:** Python, Keras, Research, Sequential Representation Learning, ML, Data Science, Data Mining, Information Retrieval, Algorithms, Data Structures, Java, HPC, NLTK, NumPy/SciPy, R, fastText, Gensim, Scikit-learn, CoreNLP, Tensorflow, Bioinformatics, Graph ML, Project Lead, Team Lead, Mentoring.

SKILLS

Proficient:

Deep Learning • Transformers • NLP • Python • Keras • PyTorch • Research • Speech Processing • Sequential Representation Learning • Machine Learning • Data Science • Data Mining • Information Retrieval • Algorithms • Data Structures • Team/Project Lead • MySQL/HIVE/Presto/PostgreSQL • C/C++ • Java • HPC • HuggingFace • Ollama • NLTK • NumPy/SciPy • SpaCy • OpenSmile • FastText • Gensim • Scikit-learn • CoreNLP

Experienced:

Tensorflow • Hadoop • Bioinformatics • Graph Machine Learning • ETL • Docker • CUDA • Scala • Spark • JavaScript • PHP • AWS • GCP • CI/CD • R

EDUCATION

TEMPLE UNIVERSITY

PHD, MACHINE LEARNING

Apr 2023 | Philadelphia, PA, USA

UNIVERSITY OF BELGRADE

MENG, SIGNAL PROCESSING

Sep 2017 | Belgrade, Serbia

UNIVERSITY OF BELGRADE

BENG, SOFTWARE ENGINEERING

Sep 2016 | Belgrade, Serbia

LINKEDIN | PHD MACHINE LEARNING ENGINEER INTERN

June - August 2021 | Philadelphia, PA, USA

- LinkedIn Learning: Proposed and implemented adaptation of neural collaborative filtering with multimodal longitudinal learning of a person's interests and skills.
- **Skills:** Spark, Scala, Keras, Tensorflow, Dali, NLP, Research, Evaluation, Deep Learning.

FACEBOOK | PHD MACHINE LEARNING ENGINEER INTERN

June - August 2020 | Philadelphia, PA, USA

- Designed and implemented a novel multitask multilabel multimodal attention architecture for extreme classification of locations with sequential learning of user history.
- **Skills:** Python, Presto, PyTorch, DL, Transformers, Deep Learning, Sequence Learning.

FACEBOOK | PHD MACHINE LEARNING ENGINEER INTERN

June - August 2019 | Menlo Park, CA, USA

- Recruiting Science: Improved candidate search by implementing NLP and IR techniques to reduce long tail in skills distribution and by proposing, implementing, and evaluating a novel Siamese-like architecture to embed job descriptions.
- **Skills:** Python, Presto, PyTorch, Caffe2, DL, statistical NLP, IR, Research, internal tools.

ALLIANCE DATA SYSTEMS, EPSILON, CONVERSANT | PHD DATA SCIENCE INTERN

May - August 2018 | Chicago, IL, USA

- Pioneered a solution to a large-volume spatio-temporal problem utilizing mean-shift, quick-shift, and hdbscan. Created a proxy to test an existing product.
- Defined evaluation metrics to show potential for implementation into a product.
- **Skills:** Hadoop, Hive, Python, Pandas, Geo, Folium, Geopandas, and Shapely, Evaluation.

ARBOR LABS | SOFTWARE ENGINEER

September 2015 - January 2017 | Belgrade, Serbia

- Reduced costs by 50% by implementing in-house ETL, data science, and visualization.
- Led an initiative for efficiency improvement through optimized data integration, and modeling for school insight software. Developed first ML models. Left to go to PhD.
- **Skills:** PHP, ETL, AWS, R, Python, MySQL, D3.js, Project & Team Lead.

DIMOCO | SOFTWARE ENGINEER

July 2015 - August 2015 | Belgrade, Serbia

- Enterprise software development in Java and its frameworks. Left to join Arbor.

SPART AGENCY | JUNIOR SOFTWARE ENGINEER

November 2014 - May 2015 | Belgrade, Serbia

- Android application development. Left to focus on summer exams.

PAMET | BIG DATA INTERN

July 2013 - September 2013 | Belgrade, Serbia

- Implementing and evaluating real-time clustering and recommendation systems and algorithms for large amounts of data for the online shop "Grupovina".
- **Skills:** Java, Hadoop, Mahout, Windows, Linux, ML (Clustering, Recommendation).

ACTIVITIES

- **Building** a CBT therapy chat-bot for people with addiction with researchers from CAMH, Toronto

- **Citations:** 186, h-index: 6

- **Virtual Chair** of ICLR 2021 and ICML 2021

- **Mentored** four PhD and five undergraduate students

- **Associate Editor** of Social Network Analysis and Mining and Big Data Journal.

- **Reviewer:** ACL, EACL, ACL ARR 2021+; NAACL, EMNLP 2022+; INTERSPEECH 2024; ECAI 2023; ECML 2022; GHC AI 2021; Nature Sci Rep. 2019...

- **Talks:** AICamp 2024, TMLS 2024, eMHIC 2024, UofT 2023