Curriculum Vitae

Aleksandar Tomčić

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Teaching Assistant
Address: Department of Mathematics and Informatics
Faculty of Sciences, University of Novi Sad
Trg Dositeja Obradovića 4
21000 Novi Sad, Serbia

Software Engineer
Address: VizLore Labs
Braće Ribnikar 56
21000 Novi Sad, Serbia

e-mail: atomic@dmi.uns.ac.rs
aleksandar.tomcic@vizlore.com
aleksandartomcic@gmail.com

LinkedIn: aleksandar-tomčić-08704a144

eNauka: `https://enauka.gov.rs/cris/rp/rp11240/dspaceitems.html`
Google Scholar: `https://scholar.google.com/citations?user=lSjr63kAAAAJ&hl=sr`
ORCID ID: `https://orcid.org/0000-0002-3206-7600`
Personal Website `https://people.dmi.uns.ac.rs/~aleksandart/`

Personal Data

Date of birth: May 22, 1995
Place of birth: Novi Sad, Serbia
Citizenship: Serbian

Languages spoken

Mother tongue: Serbian
Active knowledge: English
Reading knowledge: Spanish, German, Slavic languages

Education

- University of Novi Sad, Faculty of Sciences, Novi Sad, Serbia
  - PhD in Computer Science, 2019–Present
  - MSc in Computer Science, 2017–2019
  - BSc in Computer Science, 2014–2017
- Gymnasium “Jovan Jovanović Zmaj”, Novi Sad, Serbia (2010-2014)
- Primary school “Branko Radičević”, Odžaci, Serbia (2002-2010)

Professional Experience

Teaching Assistant Nov 2022 – Present, Department of Mathematics and Informatics, Faculty of Sciences, University of Novi Sad, Serbia
Software Engineer Avg 2020 – Present, VizLore Labs, Novi Sad, Serbia
Junior Researcher Jul 2020 – Nov 2022, Department of Mathematics and Informatics, Faculty of Sciences, University of Novi Sad, Serbia
Teaching Associate Nov 2019 – Jun 2020, Department of Mathematics and Informatics, Faculty of Sciences, University of Novi Sad, Serbia
Intern Feb 2020 – Apr 2020, VizLore Labs, Novi Sad, Serbia
Intern Nov 2019 – Dec 2019, NovaLite, Novi Sad, Serbia
External Associate Sep 2019 – Present, Gymnasium “Jovan Jovanović Zmaj”, Novi Sad, Serbia
Demonstrator Nov 2018 – Nov 2019, Department of Mathematics and Informatics, Faculty of Sciences, University of Novi Sad, Serbia

Teaching Experience

Conducted theoretical exercises in the following courses:

Artificial Intelligence 2020/21 – Present
(for students of Computer Science, sixth semester)
Machine Learning 2022/23 – Present
(for masters students of Computer Science)
Data Structures and Algorithms 3 2023/24 – Present
(for masters students of Computer Science)

Graph and Tree Algorithms 2023/24 – Present
(for masters students of Artificial Intelligence)

Conducted practical exercises in the following courses:

Desktop Publishing 2018/19 – Present
(for students of Computer Science, first semester)
Object-Oriented Programming 1 2018/19 – Present
(for students of Computer Science, third semester)
Practical UNIX 2018/19 – 2021/22
(for students of Computer Science, second semester)
Web Design 2018/19 – 2020/21
(for students of Computer Science, second semester)
Data Structures and Algorithms 1 2019/20 – Present
(for students of Computer Science, second semester)
Artificial Intelligence 2020/21 – Present
(for students of Computer Science, sixth semester)
Machine Learning 2022/23 – Present
(for masters students of Computer Science)
Data Structures and Algorithms 3 2023/24 – Present
(for masters students of Computer Science)
Graph and Tree Algorithms 2023/24 – Present
(for masters students of Artificial Intelligence)

Technical Skills

Practical experience with:

Programming languages: Java, Pascal, Python, PHP (basics), C, Scheme, JavaScript, Erlang, Go (basics)
Development environments: Eclipse, Turbo Pascal, IntelliJ IDEA, Visual Studio Code (basics), PyCharm
Web Technologies: HTML, CSS, Spring Framework, React (basics), Bootstrap, FastAPI
Databases: MySQL, MongoDB, Neo4j (basics)
Various: Mathematica, MS Office, Scribus, Bash, LaTeX, GeoGebra, Notepad++, Sublime Text, Papyrus, Bash, PySpark (basics), Git, OpenMP, MPI, Docker, scikit-learn, Weka ...

Projects

Member:

Valorization of Agro-Industrial Waste through Fungi Fermentation supported by Digital Modeling (ZEST) 2024 – 2027
(Horizon CBE JU)
Democratising Digital Farming Through Tailored Open Source and Open Hardware Solutions (OpenAgri) 2024 – 2026
(Horizon Europe)
Graphs in Space and Time: Graph Embeddings for Machine Learning in Complex Dynamical System (TIGRA) 2023 – 2026
(Supported by the Science Fund of the Republic of Serbia)

Graphs in Space: Graph Embeddings for Machine Learning on Complex Data (GRASP) 2020 – 2022
(Supported by the Science Fund of the Republic of Serbia)

Interoperable Solutions Connecting Smart Homes, Buildings and Grids (InterConnect) 2019 – 2024
(Horizon 2020 project)

Federated and Trusted Food Supply Chains (FT-Chain) 2021 – 2024
(Bilateral Research Project led by FUB (Freie Universität Berlin)
Supported by German Government)

Anything Else

- Erdős number: **4** (Miloš Radovanović → Michael E. Houle → David m. Avis → Pál Erdős)

List of Publications

[SADM 24] **A Tomčić**, M Savić and M Radovanović - Hub-aware Random Walk Graph Embedding Methods for Classification. *Statistical Analysis and Data Mining* 17(2):e11676, 2024

[BCCA 23] M. Gulati, N. Dadkhah, B. Groß, G Wunder, J. Glavonjic, A. Pavlovic, and **A. Tomcic** - BETA-FL: Blockchain-Event Triggered Asynchronous Federated Learning in Supply Chains. In *Proceedings of BCAA 23, 5th International Conference on Blockchain Computing and Application*, Kuwait, Kuwait, 2023. IEEE

[WSDM 22] M. Tošić, FA. Coelho, B. Nouwt, DE. Rua, **A. Tomčić** and S. Pešić - Towards a Cross-domain Semantically Interoperable Ecosystem (extended abstract). *Invitation talk in Smart City Day @ WSDM 22*

Theses

[MSc 19] **Robustness of Deep Neural Networks to Adversarial Attacks** Department of Mathematics and Informatics, Faculty of Sciences, University of Novi Sad, Serbia