Luka Kurešević

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Education

Faculty of Sciences, University of Novi Sad   Oct 2023 – Jul 2026
BSc in Computer Science
- Current GPA: 10.00/10

Research Experience

Parallel Systems Architecture Lab, EPFL (Summer@EPFL)   May 2025 – Jul 2025
Research Intern
- Research and development of heuristics for addressing NP-hard problems in electronic design automation for FPGAs (specifically FPGA routing; construction of congestion aware Steiner minimal trees in graphs).

Professional Experience

Microsoft Development Center Serbia, Belgrade (MCDS)   Nov 2025 – Mar 2026
Software Engineering Intern

Skills

Programming Languages: C++, Java, Python

Tools and Frameworks: VTR, PyTorch, Pandas

Projects

Detecting Anomalies in Attributed Networks Using GNNs and the *Dominant* Framework
Coursework for "Experiments with Neural Networks 2" (Faculty of Sciences, University of Novi Sad) (link)

- Applied anomaly injection methods to augment attributed networks with structural and attribute-based outliers.
- Proposed and evaluated a variant of the DOMINANT anomaly-detection autoencoder based on Graph Attention Networks.

An RSMT Construction Technique Based On GNN-Inspired Message Passing
Coursework for "Algorithms in Hardware Design" (Faculty of Sciences, University of Novi Sad) (link)

- Proposed an enhancement to a PathFinder inspired algorithm for constructing Steiner minimal trees on rectilinear graphs, introducing a message-passing mechanism to mitigate globally suboptimal choices during RSMT construction.
- Evaluated the enhanced and baseline algorithms under various sink orders, observing accuracy improvements over the FLUTE heuristic for large instances, at the expense of runtime.

Performance Comparison of CNN and LSTM Architectures for Environmental Sound Classification
Coursework for "Experiments with Neural Networks 1" (Faculty of Sciences, University of Novi Sad) (link)

- Preprocessed audio samples into Mel spectrograms and prepared dataset splits to enable 10-fold cross-validation for the classification task.
- Evaluated CNN and LSTM architectures through experiments analyzing how model complexity, dropout, and learning rate influence overall performance.

Languages

English (C2, Cambridge Proficiency Exam),

German (B1, Internationales Kulturinstitut Vienna),

Serbian (Native)