

Aleksandar Bojchevski

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Education

- 2016 – 2020 **Ph.D. Candidate**, *Technical University of Munich*
Thesis: "Machine Learning on Graphs in the Presence of Noise and Adversaries". Focus on adversarial examples, robustness certificates, and representation learning for graph data.
- 2013 – 2015 **M.Sc. Informatics**, *Technical University of Munich*, GPA: 1.2, with high distinction.
Thesis: "Semi-supervised learning for biomedical named-entity recognition".
- 2009 – 2013 **B.Eng. Informatics**, *Faculty of Computer Science and Engineering, Skopje*, GPA: 9.9/10
Thesis: "Personality prediction based on information from social networks".

Work experience

- 2019 – now **Project Leader**, *Software Campus*, Munich
Developing and leading a research project (100K EUR) on "Deep Representations for Evolving Networks". In collaboration with Huawei and TU Munich as part of the Software Campus program.
- Sep – Dec 2018 **Research Intern**, *Google*, New York City
Worked with the graph mining team on: graph neural networks for large-scale semi-supervised classification, generative models for graphs, and adversarial attacks and defenses on graphs.
- 2010 – 2015 **Senior Software Engineer**, *BMG Universe*, Skopje
Responsibilities: architecture design, implementation, testing, and maintenance. Notable projects:
 - Medical software (hearing aids): C++/CLI, .NET, Qt Framework, DLL drivers;
 - Android mobile development: product monitoring dashboard; puzzle games (OpenGL ES)
- 2011 – 2013 **Android Developer**, *Adverta CS*, Skopje
Design and implementation of a content synchronization and scheduling system (Android, C#).

Technical skills

- Languages **Python**, Java, C++, C#, MATLAB, R
- Frameworks Tensorflow, PyTorch, Theano, Android, Qt, .NET, ASP, OpenGL
- Databases Microsoft SQL Server, MySQL, MongoDB

Certifications and Seminars

- 2019 *Software Campus*: Innovation Management, Cultural Awareness and Decision Making, Convincing communication despite resistance and headwind, Self-Leadership
- 2018 *CeDoSIA*: Professional Scrum Master, Scientific Paper Writing, User-Centered Research
- 2012 *Innovation Academy*: Microsoft .NET 4: Web App. Development and Accessing Data

Awards and Scholarships

- 2017 – 2018 Microsoft Azure Research Award
- 2013 – 2015 DAAD (Deutscher Akademischer Austauschdienst) Scholarship
- 2010 – 2012 Honored student, Faculty of Computer Science and Engineering

2009 2nd place, 20th National competition in Informatics, Skopje

Teaching experience and Scientific community service

Teaching Assis. Machine Learning, Mining Massive Datasets, Large-Scale Graph Analytics and Machine Learning, Robust Data Mining Techniques, Efficient Inference and Large-scale Machine Learning, Introduction to Software Development, Object-oriented Programming, Compilers
(Ext.) Review ECML PKDD, WWW, ICDM, KDD, DLG, GEM, ICLR, NeurIPS, AAI
Organization Macedonian National Competition in Informatics 2012 & 2013

Open source software

g2g/rsc/... **Author.** Code on GitHub (<https://github.com/abojchevski>) accompanying several publications: Gaussian node embeddings, graph poisoning, robust spectral clustering, etc.
nala/nalaf **Core contributor.** nalaf (Python): NLP framework for entity recognition and relationship extraction. nala (Python): Natural language mutation mention extraction.

Languages

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|------------|-----------------------|--------------------------|
| Macedonian | Native language | |
| English | Bilingual proficiency | <i>TOEFL iBT 114/120</i> |
| German | Intermediate | <i>B1 level (CEFR)</i> |

Selected publications

- ICML 2020 **Bojchevski A**, Klicpera J, Günnemann S. Efficient Robustness Certificates for Discrete Data: Sparsity-Aware Randomized Smoothing for Graphs, Images and More.
- KDD 2020 **Bojchevski A**, Klicpera J, Perozzi B, Kapoor A, Blais M, Rózemerczki B, Lukasik M, Günnemann S. Scaling Graph Neural Networks with Approximate PageRank.
- NeurIPS 2019 **Bojchevski A**, Günnemann S. Certifiable Robustness to Graph Perturbations.
- ICML 2019 **Bojchevski A**, Günnemann S. Attacks on Node Embeddings via Graph Poisoning.
- ICLR 2019 Klicpera J, **Bojchevski A**, Günnemann S. Predict then Propagate: Graph Neural Networks meet Personalized PageRank.
- ICML 2018 **Bojchevski A**, Shchur O, Zügner D, Günnemann S. NetGAN: Generating Graphs via Random Walks.
- ICDMW 2018 Shchur O, **Bojchevski A**, ..., Saber Y. Anomaly Detection in Car-Booking Graphs.
- ICLR 2018 **Bojchevski A**, Günnemann S. Deep Gaussian Embedding of Graphs: Unsupervised Inductive Learning via Ranking.
- AAAI 2018 **Bojchevski A**, Günnemann S. Bayesian Robust Attributed Graph Clustering: Joint Learning of Partial Anomalies and Group Structure.
- Bioinf. 2018 Cejuela JM, Vinchurkar S, ..., **Bojchevski A**, ..., Rost B. LocText: relation extraction of protein localizations to assist database curation.
- KDD 2017 **Bojchevski A**, Matkovic Y, Günnemann S. Robust Spectral Clustering for Noisy Data: Modeling Sparse Corruptions Improves Latent Embeddings.



Munich, October 12, 2020