

Nikola Kalábová

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Education

Charles University (Prague, Czech Republic)	MSc. in Artificial Intelligence	2021 – now
Charles University (Prague, Czech Republic)	BSc. in Bioinformatics	2018 – 2021
Friedrich Schiller Gymnasium (Pirna, Germany)	Abitur	2012 – 2018

Work Experience

Software engineer in bioinformatics	2021 – now
MSD Czech Republic	
Teaching Assistant for Introduction to Linux and Discrete Mathematics	2021 – now
Faculty of Mathematics and Physics, Charles University	
Research internship	2020 – 2021
Institute of Biotechnology, Czech Academy of Sciences	

Projects

Neural networks QSPR model (GitHub)	2021
Prediction of physicochemical properties for a variety of molecules using graph-informed feature extraction and (1) a neural networks for significant performance or (2) a simple linear regression model for explainability.	
Calculation of dihedral angles in DNA molecules	Institute of Biotechnology 2020
Information extraction from CIF files. Dihedral angles calculation for further classification of DNAs.	
KD-tree for periodical data (GitHub)	Institute of Biotechnology 2020
A tool for fast search for nearest neighbours in a large data set of periodical data with the usage of KD-trees.	

Skills

Programming:	C#, Python, R, Unix, Git, Networkx
Software:	PyMol, Latex, Docker
Mathematics:	Graph Theory, Algebra, Linear Algebra, Complex Networks

Languages

Czech:	C2 level (native)	German:	C1 level (A-levels from German as native language)
English:	C1 level (TOEFL score 101)		

Extracurricular activities

Vice-chairman of Rozrazil - association organizing events for people with disabilities	2021 - now
Organizer of mathematics competition for middle schools Pikomat	2018 - 2021
Main organizer for two years.	
Science week on Faculty of Nuclear Sciences and Physical Engineering	2016

Interests

Complex Networks, Bioinformatics, Mathematical structures, Artificial intelligence