

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

Research Intern		2022 – now
Max Planck Institute for Biology, Tübingen		
Junior Software Developer in Bioinformatics		2021 – now
MSD Czech Republic		
Teaching Assistant for Introduction to Linux and Discrete Mathematics		2021 – 2022
Faculty of Mathematics and Physics, Charles University		
Research Intern		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.		
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. Used in DNATCO.		
Calculation of dihedral angles in DNA molecules	Institute of Biotechnology	2020
Information extraction from CIF files. Dihedral angles calculation for further classification of DNAs.		

Skills

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

Languages

Czech: C2 level **German:** C1 level **English:** C1 level (TOEFL score 101) **Spanish:** A2 level

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.	

Interests

Complex Networks, Bioinformatics, Mathematical Structures, Deep Learning