

## Work experience

- April 2024 – present **Postdoctoral researcher in Complex Networks and Brain Dynamics Group**, Institute of Computer Science, Czech Academy of Sciences, Prague Czech Republic.  
Development of deep learning methods for neuroimaging-based tools for psychiatry
- Feb 2024 – April 2024 **Doctoral researcher in Complex Networks and Brain Dynamics Group**, Institute of Computer Science, Czech Academy of Sciences, Prague Czech Republic.  
Development of multi-modal models of brain networks aiming to predict the functional outcomes of schizophrenia.

## Fellowships & Awards

- January 2025 – December 2025 **Program podpory perspektivních lidských zdrojů (Program for supporting promising human resources fellowship)**, *Data-driven Simulation and Forecasting of Brain Dynamics*, PPPLZ - the Czech Academy of Sciences project PPLZ L100302451, Supervised by Jaroslav Hlinka.

## Education

- 2020 – 2024 **PhD, Mathematical and Statistical Modelling**, *Cotutelle at Centre for Computational Science and Mathematical Modelling, Coventry University and A\*STAR Institute for Infocomm Research*, Coventry, UK and Singapore, *Project title*: Network Inference and Graph Learning in Characterising Alzheimer's Disease.  
Supervised by Dr Fei He (Coventry University) and Dr Min Wu (A\*STAR).
- 2019 – 2020 **MSc, Data science and computational intelligence**, *Coventry University*, Coventry, UK.
- 2016 – 2019 **BSc, Cognitive science**, *Aarhus University*, Aarhus, Denmark.

## Publications

### Journal Articles

- 2024 **Dominik Klepl**, Min Wu, and Fei He. Graph Neural Network-Based EEG Classification: A Survey. *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, volume 32, pages 493–503, 2024.
- 2023 **Dominik Klepl**, Fei He, Min Wu, Daniel J. Blackburn, and Ptolemaios G. Sarrigiannis. Cross-Frequency Multilayer Network Analysis with Bispectrum-based Functional Connectivity: A Study of Alzheimer's Disease. *Neuroscience*, volume 521, pages 77–88, June 2023.
- 2023 **Dominik Klepl**, Fei He, Min Wu, Daniel J. Blackburn, and Ptolemaios Sarrigiannis. Adaptive Gated Graph Convolutional Network for Explainable Diagnosis of Alzheimer's Disease Using EEG Data. *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, volume 31, pages 3978–3987, 2023.
- 2022 **Dominik Klepl**, Fei He, Min Wu, Matteo De Marco, Daniel J. Blackburn, and Ptolemaios G. Sarrigiannis. Characterising Alzheimer's Disease With EEG-Based Energy Landscape Analysis. *IEEE Journal of Biomedical and Health Informatics*, volume 26, pages 992–1000, March 2022.
- 2022 **Dominik Klepl**, Fei He, Min Wu, Daniel J. Blackburn, and Ptolemaios Sarrigiannis. EEG-Based Graph Neural Network Classification of Alzheimer's Disease: An Empirical Evaluation of Functional Connectivity Methods. *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, volume 30, pages 2651–2660, 2022.

## In Conference Proceedings

- 2022 **Dominik Klepl**, Fei He, Wu Min, Daniel Blackburn, and Ptolemaios Sarrigiannis. Bispectrum-based Cross-frequency Functional Connectivity: Classification of Alzheimer's disease. In *2022 44th Annual International Conference of the IEEE Engineering in Medicine & Biology Society (EMBC)*, pages 305–308, July 2022. ISSN: 2694-0604.
- 2022 Sivasharmini Ganeshamoorthy, Laura Roden, **Dominik Klepl**, and Fei He. Gene Regulatory Network Inference through Link Prediction using Graph Neural Network. In *2022 IEEE Signal Processing in Medicine and Biology Symposium (SPMB)*, pages 1–5, December 2022. ISSN: 2473-716X.

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## Research Activities and Grant Activities

- January 2025 **Leader of research activity**, *Population-graph approaches for multi-modal modeling of schizophrenia*, CAS program Strategy AV21 "AI" AV21-VP34/2025, Supervised by Jaroslav Hlinka.  
– December 2025
- February 2024 **Team member**, *Predicting functional outcome in schizophrenia from multimodal neuroimaging and clinical data*, Czech Health Research Council Project No. NU21-08-00432.  
– December 2024

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## Skills

- Languages Czech, English, German
- Programming Python, PyTorch, R, MATLAB, Julia
- Languages

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## Position of Responsibility

- April 25, 2023 **Organiser and Co-chair**, *PGR Student Conference @ Centre for Computational Science and Mathematical Modelling*, Coventry University, Coventry, UK.
- Reviewing for journals**, *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, *BioMedical Engineering OnLine*, *Scientific Reports*, *BMC Neuroscience*.

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## Teaching Assistantship

- Spring, 2021 **7089CEM Introduction to Statistical methods for Data Science**, *Teaching assistant*, Coventry University, Coventry, UK.
- Spring, 2021 **7088CEM Artificial Neural Networks**, *Teaching assistant*, Coventry University, Coventry, UK.