

Csaba Kiss

PHD STUDENT · APPLIED MATHEMATICS

HSDSLab, Budapest University of Technology, Budapest, Hungary

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Professional Experience

2025-
present

Deputy Head of Operations, HSDSLab, Budapest University of Tech. and Eco.

2022-2024

Graduate Research Assistant, HSDSLab, Department of Stochastics, Budapest University of Tech. and Eco.

Leader: Dr. Roland Molontay

Research topics: Applications of Machine Learning (Log-anomaly detection, Dynamical Clustering, Network Analysis, Knowledge Graph Analysis)

2023-2024

Graduate Teaching Assistant, Budapest University of Tech. and Eco.

2021-2022

Undergraduate Teaching Assistant, Budapest University of Tech. and Eco.

Education

Budapest University of Technology and Economics, Department of Stochastics,
HSDSLab

Budapest, Hungary

PHD IN MATHEMATICS

2024 - present

- Topic: Integration of Network Science, NLP, and Deep Learning for Advancements in Telecommunications, Healthcare, and the Energy Sector
- Supervisor: Dr. Roland Molontay

Budapest University of Technology and Economics

Budapest, Hungary

MSC IN APPLIED MATHEMATICS, SPECIALIZING IN FINANCIAL MATHEMATICS

2022 - 2024

- Master's thesis: Limiting distributions of interacting particle systems
- Supervisor: Dr. Bálint Vető
- One semester at TU Graz (Austria) with Erasmus+ scholarship, Spring 2023
- Qualification of diploma: excellent with highest honors (DGPA= 4.93/5)

Budapest University of Technology and Economics

Budapest, Hungary

BSC IN APPLIED MATHEMATICS, SPECIALIZING IN STOCHASTICS

2019 - 2022

- Bachelor's thesis: Modelling the age of the oldest person in the world
- Supervisor: Dr. Bálint Vető
- Qualification of diploma: excellent with highest honors (DGPA= 4.98/5)

Teaching Experience

Fall 2024

Stochastic Models (in English) for Appl. Math. MSc students,
Instructor of the laboratory exercises

*Department
of Stochastics*

Fall 2023

Mathematics A3 for Civil Engineers (Differential equations, Probability Theory),
Instructor of the practical course

*Department
of Stochastics*

Spring

2022, 2024,
2025

Mathematics A2 for Engineers (Multivariate Calculus),
Instructor of the practical course

*Department
of Analysis*

Fall 2021

Mathematics A1 for Electrical Engineers (Univariate Calculus, Vector Geometry),
Instructor of the practical course

*Department
of Analysis*

Mentoring

HSDSLab,
Budapest
University of
Tech. and Eco.

- Fall, 2025 **Noah Roussel**, Erasmus Master Intern, Topic: A Scientometric Analysis of the Pharmacology Journal Landscape
- Summer, 2025 **Gabriel Vignon**, Erasmus Master Intern, Topic: A Scientometric Analysis of the Pharmacology Journal Landscape
- Spring, 2025 **Alexy Bounsavath**, Erasmus Master Intern, Topic: Analysis and classification of Cryptocurrency Tokens
- Fall, 2024 **Imren Ece Titiz**, Erasmus Master Intern, Topic: Diet-related trend analysis across media platforms
- Spring, 2024 **Gwen Billy**, Erasmus MSc Intern, Topic: Diet-related trend analysis across media platforms

Publications

PUBLISHED

- Bíró, B., **Kiss, Cs.**, Molontay, R., Aszódi, A. (2026). *Industry-adaptable explainable AI based methodology for forecasting electricity prices. Energy Conversion and Management: X*, **2026**, 101583. ISSN 2590-1745. <https://doi.org/10.1016/j.ecmx.2026.101583>
- Kiss, Cs.**, Nagy, M., Szilágyi, P. (2025). *Max–Min semantic chunking of documents for RAG application. Discover Computing*, **28**(1), 117. <https://doi.org/10.1007/s10791-025-09638-7>
- Kiss, Cs.**, Németh, L., Vető, B. (2024). *Modelling the age distribution of longevity leaders. Scientific Reports*, **14**(1), 20592. <https://doi.org/10.1038/s41598-024-71444-w>

SUBMITTED

- Kiss, Cs.**, Titiz, I., Billy, G., Molontay, R. *Cross-Platform Analysis of Diet Discourse: Scientific Research, News Media, and Social Media Compared Environmental Communication*

IN PREP.

- Kiss, Cs.**, Pergola, G., Molontay, R. *Advancing Causal Inference in Adverse Drug Effect Detection with NLP and Machine Learning*

Conferences, & Visits

* *presenting author*

- Bounsavath, A., **Kiss, Cs. ***, Savci, T., Hellner, G., Molontay, R. *Anticipating Crypto Success: An XAI Framework for Early-Stage Token Viability Using Deployment Features. IEEE International Conference on Distributed Ledger Technologies 2025, Pune, India (online)*
- Kiss, Cs.***, Pergola, G., Molontay, R. *Advancing Causal Inference in Adverse Drug Effect Detection with NLP and Machine Learning*. Biomedical Data Science Summer School and Conference, Aug. 2025, Semmelweis University, Budapest, Hungary.
- Kiss, Cs.***, Pergola, G., Molontay, R. *Advancing Causal Inference in Adverse Drug Effect Detection with NLP and Machine Learning*. Invited Seminar and Research Visit, May 2025, University of Warwick, Coventry, UK.
- Kiss, Cs.***, Németh, L., Vető, B. *Modelling the distribution of longevity leaders*. 15th International Seminar on Supercentenarians, Autumn 2023, Paris, France.

Awards, & Grants

- 2024 **Kató Rényi Memorial Award**, János Bolyai Mathematical Society
- 2024-2028 **Cooperative Doctoral Programme (EKÖP-KDP)**, Ministry of Culture and Innovation, Hungary
- 2024 **Outstanding Student of the Faculty Award**,
BME Faculty of Natural Sciences
- 2023 **1st prize at ELTE, conference of Student Research Societies (TDK)**,
Title: On the asymptotic behavior of geometric q-push TASEP with particle creation model,
Supervisor: Dr. Bálint Vető
- 2023-2024 **New National Excellence Program (ÚNKP)**, Ministry of Culture and Innovation, Hungary
- 2023 **2nd prize at the national conference of Student Research Societies (OTDK)**,
Title: Modelling the age of the oldest person in the world, Supervisor: Dr. Bálint Vető
- 2023 **Bronze Medal at the NSUCRYPTO international competition (second round)** ,
Team members: Csaba Kiss, Donát Köller, Márton Marits
- 2022 **2nd prize at BME, conference of Student Research Societies (TDK)**,
Title: Modelling the age of the oldest person in the world, Supervisor: Dr. Bálint Vető
- 2022 **Outstanding Student of the Faculty Award**,
BME Faculty of Natural Sciences
- 2022 **Bronze Medal at the NSUCRYPTO international competition (second round)** ,
Team members: Csaba Kiss, Donát Köller, Márton Marits
- 2021 **3rd prize at BME, conference of Student Research Societies (TDK)**,
Title: Synthetic characterization of isometries in the hyperbolic space, Supervisor: Dr. Ákos G. Horváth

Related skills _____

LANGUAGES

Hungarian, native proficiency
English, full working proficiency
German, limited working proficiency

PROGRAMMING LANGUAGES

Python, (scikit-learn, pandas, seaborn, matplotlib, numpy, tensorflow, pytorch, networkx)
Wolfram Language, (Mathematica)
R, .