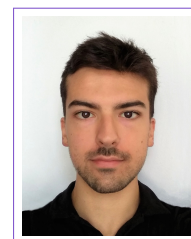# Máté Baranyi

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date of birth: 1995-02-23

Education

PhD	**2018–ongoing**, *Budapest University of Technology and Economics*.
	Department of Stochastics & Doctoral School of Mathematics and Computer Science.
Subject:	*Mixed graphical models*, supervised by Dr. Marianna Bolla
MSc	**2016–2018**, *Budapest University of Technology and Economics*.
	MSc in Applied Mathematics, Financial Mathematics specialization, I graduated Summa Cum Laude.
MSc thesis:	*Graphical models and some related algorithms*, supervised by Dr. Marianna Bolla
BSc	**2013–2016**, *Budapest University of Technology and Economics*.
	BSc in Mathematics, Applied Mathematics specialization, I graduated Cum Laude.
BSc thesis:	*The separator of a subset of a semigroup*, supervised by Dr. Attila Nagy
Secondary school	**2009–2013**, *Esze Tamás Gimnázium*, Mátészalka.
	Advanced Final Exam in Mathematics

Experience and Teaching

2018 fall–**ongoing**	**Teaching as PhD student**, *Budapest University of Technology and Economics*.
	I mainly hold practice classes for electrical engineering students on probability theory, and for labor classes for mathematics students on statistics.
2017 fall–2019 spring	**Demonstrator**, *Budapest University of Technology and Economics*.
	Grading weekly homeworks and administrating the result table for courses hold for mathematics students, called Mathematical Statistics, Statistics I., Markov processes & Martingales.
2017 august–2018 march	**Intern**, *Morgan Stanley Budapest*.
	Model Risk Management internship in the Institutional Equity Division. Writing and maintaining model review documents for exotic equity-based financial products from model risk perspective.

University and other projects

2019 Mar–2019 Oct	**BME–Nokia Bell Labs collaboration**, *PhD*.
	Within the framework of this collaboration we were working on topics related to dimension reduction of high and varying dimensional sensor data.
2018 Jun–2020 May	**BME FIKP-MI/SC**, *PhD*.
	Within the framework of this project we were working on topics related to artificial intelligence and time-series analysis, funded by the Ministry of Human Capacities (EMMI).
2017 fall	**Individual Projects II**, *MSc*.
	Within the framework of this course I worked on an Educational Data Mining related task supervised by Roland Molontay from BME.
2017 spring	**Individual Projects I**, *MSc*.
	Within the framework of this course I worked on a Credit Risk Scorecard Development related task supervised by Ildikó Priksz from OTP Bank.
2015 spring–2015 fall	**Programming Projects I and II**, *BSc*.
	Within the framework of these courses I worked on a task related to the mathematics of Voting Systems.

Computer and Programming skills

Intermediate knowledge of: **Python**, **R**, **LaTeX**, **Excel**. **Tensorflow**.

Basic knowledge of: Mathematica, C, C++, HTML. MatLab.

Languages

Hungarian	native language
English	fluent (writing, reading), intermediate (speaking)
German	intermediate (writing, reading), basic (speaking)

Conferences

2020 Oct **21st Annual ACM SIGITE 2020 Conference**, *online*.
Short presentation, titled *Interpretable Deep Learning for University Dropout Prediction*

2019 Jul **International Symposium on Educational Technology (ISET)**, *Hradec Kralové, Czechia*.
Short presentation, titled *Effect of Mathematics Remediation on Academic Achievement – A Regression Discontinuity Approach*

2018 Dec **11th International Conference of the ERCIM WG on Computational and Methodological Statistics**, *Pisa, Italy*.
Short presentation, titled *Nonparametric regression estimation in chain graph models*

Publications

[1] Máté Baranyi, Marcell Nagy, and Roland Molontay. Interpretable Deep Learning for university dropout prediction. In *Proceedings of the 21st Annual Conference on Information Technology Education*, page 13–19, New York, NY, USA, 2020. Association for Computing Machinery. `doi:10.1145/3368308.3415382`.

[2] Máté Baranyi and Marianna Bolla. Iterated Conditional Expectation algorithm on DAGs and regression graphs. *Econometrics and Statistics*, 2020. Published online on 12 Jun. `doi:10.1016/j.ecosta.2020.05.003`.

[3] Máté Baranyi, Kristóf Gál, Roland Molontay, and Mihály Szabó. Modeling Students' Academic Performance Using Bayesian Networks. In *2019 17th International Conference on Emerging eLearning Technologies and Applications (ICETA)*, pages 42–49. IEEE, November 2019. `doi:10.1109/ICETA48886.2019.9040067`.

[4] Máté Baranyi and Roland Molontay. Effect of mathematics remediation on academic achievement – a regression discontinuity approach. In *2019 International Symposium on Educational Technology (ISET)*, page 29–33. IEEE, 7 2019. `doi:10.1109/ISET.2019.00016`.

[5] Máté Baranyi and Roland Molontay. Comparing the effectiveness of two remedial mathematics courses using modern regression discontinuity techniques. *Interactive Learning Environments*, 2020. Published online on 17 Dec. `doi:10.1080/10494820.2020.1839506`.

[6] Marianna Bolla, Fatma Abdelkhalek, and Máté Baranyi. Graphical models, regression graphs, and recursive linear regression in a unified way. *Acta Scientiarum Mathematicarum*, 85(12):9–57, 2019. `doi:10.14232/actasm-018-331-4`.