

CURRICULUM VITAE — GERGELY NEU

Date of birth: December 24, 1984
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Appointments:

10/2018– Research assistant professor,
Artificial Intelligence group
Department of Information and Communication Technologies
Universitat Pompeu Fabra
Barcelona, Spain

10/2015– 09/2018 Postdoctoral researcher,
Artificial Intelligence group
Department of Information and Communication Technologies
Universitat Pompeu Fabra
Barcelona, Spain

09/2013–08/2015 Postdoctoral researcher,
SequeL team,
INRIA Lille – Nord Europe
Villeneuve d’Ascq, France

09/2008–06/2013 PhD Student,
Department of Computer Science and Information Theory
Budapest University of Technology and Economics
Budapest, Hungary

07/2008–06/2013 Junior researcher,
MTA SZTAKI Institute for Computer Science and Control, Hungarian Academy of
Sciences
Budapest, Hungary

Academic Qualifications:

2013 PhD. in Computer Science
Thesis title: *Online learning in non-stationary Markov decision processes.*
Advisors: András György (MTA SZTAKI, Hungary), Csaba Szepesvári (University of
Alberta, Canada) and László Györfi (Budapest University of Technology and Eco-
nomics, Hungary)
Budapest University of Technology and Economics
Budapest, Hungary

2008 MSc. in Electrical Engineering
Thesis title: *Inverse reinforcement learning and its application to learning to parse.*
Advisors: Csaba Szepesvári (University of Alberta, Canada) and László Györfi (Bu-
dapest University of Technology and Economics, Hungary)
Budapest University of Technology and Economics
Budapest, Hungary

Visiting positions:

11/2022–12/2022 Visiting researcher at the Simons Institute for the Theory of Computing for the pro-
gram on Data-Driven Decision Processes, Berkeley CA, USA

08/2020–12/2020 Visiting researcher at the Simons Institute for the Theory of Computing for the pro-
gram on Theory of Reinforcement Learning, Berkeley CA, USA (virtual)

06/2018–09/2018 Visiting researcher at Google Brain, Zürich, Switzerland

02/2011–06/2011 Visiting PhD student at the University of Alberta, Edmonton AB, Canada

08/2009–10/2009 Visiting PhD student at the University of Alberta, Edmonton AB, Canada

02/2008–06/2008 Visiting MSc student at the University of Alberta, Edmonton AB, Canada

Research Grants and Awards:

10/2021–09/2026	ERC Starting Grant
10/2019	Bosch Young AI Researcher Award
02/2019	Google Faculty Research Award 2018
10/2018–09/2021	“la Caixa” Junior Leader fellowship
10/2015–09/2018	UPFellows Fellowship (Marie Curie COFUND programme)
09/2013–08/2014	ERCIM Alain Bensoussan Fellowship (Marie Curie COFUND programme)
06/2019	Outstanding reviewer award at ICML 2019 (awarded to top 5% of reviewers)
07/2016	Outstanding reviewer award at ICML 2016 (awarded to top 1% of reviewers)
07/2016	Outstanding PC member award at IJCAI 2016 (awarded to top 10% of reviewers)
10/2011	PhD student of the year at MTA SZTAKI
04/2011	MTA SZTAKI youth prize for excellent research activity
10/2010	PhD student of the year at MTA SZTAKI
10/2009	PhD student of the year at MTA SZTAKI
11/2009	Pro Scientia Gold Medal (awarded biannually to the two best Computer Science student-researchers in Hungary)
06/2009	First prize at the National Scientific Students’ Associations Conference (Hungary)
09/2007–06/2008	Scholarship of the Hungarian Republic (awarded to the top 0.8% of students at their respective universities)
06/2007	Second prize at the National Scientific Students’ Associations Conference (Hungary)
09/2006–06/2007	Scholarship of the Hungarian Republic (awarded to the top 0.8% of students at their respective universities)

Publications in Peer-Reviewed Journals:¹

- J6*. Gábor Lugosi, Mihalis Markakis and **Gergely Neu** (2023): *On the hardness of inventory management with censored demand data*. In *INFORMS Journal on Optimization*.
- J5. **Gergely Neu** and Gábor Bartók (2016): *Importance weighting without importance weights: An efficient algorithm for combinatorial semi-bandits*. In *Journal of Machine Learning Research: Volume 17, Issue 154*, pp. 1–21.
- J4*. Luc Devroye, Gábor Lugosi and **Gergely Neu** (2015): *Random-walk perturbations for online combinatorial optimization*. In *IEEE Transactions on Information Theory: Volume 61*, pp. 4099–4016.
- J3. **Gergely Neu**, András György, Csaba Szepesvári and András Antos (2014): *Online Markov decision processes under bandit feedback*. In *IEEE Transactions on Automatic Control: Volume 59*, pp. 676–691.
- J2. András György and **Gergely Neu** (2014): *Near-optimal rates for limited-delay universal lossy source coding*. In *IEEE Transactions on Information Theory: Volume 60*, pp. 2823–2834.
- J1. **Gergely Neu** and Csaba Szepesvári (2009): *Training parsers by inverse reinforcement learning*. In *Machine Learning: Volume 77, Issue 2*, pp. 303–337.

Publications in Peer-Reviewed Conference Proceedings:¹

- C42*. **Gergely Neu**, Julia Olkhovskaya, Sattar Vakili (2024): *Adversarial Contextual Bandits Go Kernelized*. In *Algorithmic Learning Theory (ALT)*.
- C41*. Germano Gabbianelli, **Gergely Neu**, Matteo Papini (2024): *Importance-Weighted Offline Learning Done Right*. In *Algorithmic Learning Theory (ALT)*.
- C40*. Germano Gabbianelli, **Gergely Neu**, Nneka Okolo, Matteo Papini (2024): *Offline Primal-Dual Reinforcement Learning for Linear MDPs*. In *AI&Statistics (AISTATS)*.
- C39. Julia Olkhovskaya, Jack Mayo, Tim van Erven, **Gergely Neu**, Chen-Yu Wei (2023): *First-and Second-Order Bounds for Adversarial Linear Contextual Bandits*. In *Neural Information Processing Systems*.
- C38*. Antoine Moulin and **Gergely Neu** (2023): *Optimistic Planning by Regularized Dynamic Programming*. In *International Conference of Machine Learning (ICML)*, pp. 25337-25357.

¹Authors listed in alphabetical order for papers marked with *.

- C37. Lukas Zierahn, Dirk van der Hoeven, **Gergely Neu**, Nicolò Cesa-Bianchi (2023): Nonstochastic Contextual Combinatorial Bandits. In AI&Statistics (AISTATS), pp. 8771-8813.
- C36*. **Gergely Neu**, Nneka Okolo (2023): Efficient Global Planning in Large MDPs via Stochastic Primal-Dual Optimization. In Algorithmic Learning Theory (ALT), pp. 1101-1123.
- C35*. Germano Gabbianelli, **Gergely Neu**, Matteo Papini (2023): Online learning with off-policy feedback. In Algorithmic Learning Theory (ALT), pp. 620-641.
- C34. Luca Viano, Angeliki Kamoutsi, **Gergely Neu**, Igor Krawczuk and Volkan Cevher (2022): *Proximal Point Imitation Learning*. In Neural Information Processing Systems (NeurIPS).
- C33*. **Gergely Neu**, Julia Olkhovskaya, Matteo Papini and Ludovic Schwartz (2022): *Lifting the Information Ratio: An Information-Theoretic Analysis of Thompson Sampling for Contextual Bandits*. In Neural Information Processing Systems (NeurIPS).
- C32*. **Gergely Neu** and Gábor Lugosi (2022): *Generalization bounds via convex analysis*. In Conference on Learning Theory (COLT), pp. 3524–3546.
- C31*. **Gergely Neu** and Julia Olkhovskaya (2021): *Online learning in MDPs with linear function approximation and bandit feedback*. In Neural Information Processing Systems (NeurIPS), pp. 10407–10417.
- C30. **Gergely Neu**, Gintare Karolina Dziugaite, Mahdi Haghifam and Daniel M. Roy (2021): *Information-theoretic generalization bounds for stochastic gradient descent*. In Conference on Learning Theory (COLT), pp. 3526–3545.
- C29. Fan Lu, Prashant G. Mehta, Sean P. Meyn and **Gergely Neu** (2021): *Convex Q-Learning*. In American Control Conference (ACC), pp. 4749–4756.
- C28*. Joan Bas-Serrano, Sebastian Curi, Andreas Krause and **Gergely Neu** (2021): *Logistic Q-Learning*. In AI&Statistics (AISTATS), pp. 3610–3618.
- C27*. **Gergely Neu** and Ciara Pike-Burke (2020): *A Unifying View of Optimism in Episodic Reinforcement Learning*. In Neural Information Processing Systems (NeurIPS), pp. 1392–1403.
- C26*. **Gergely Neu** and Julia Olkhovskaya (2020): *Efficient and robust algorithms for adversarial linear contextual bandits*. In Conference on Learning Theory (COLT), pp. 3049–3068.
- C25*. **Gergely Neu** and Nikita Zhivotovskiy (2020): *Fast rates for online prediction with abstention*. In Conference on Learning Theory (COLT), pp. 3030–3048.
- C24*. Joan Bas-Serrano and **Gergely Neu** (2020): *Faster saddle-point optimization for solving large-scale Markov decision processes*. In Conference on Learning for Dynamics and Control (LADC), pp. 413–423.
- C23*. Nicole Mücke, **Gergely Neu** and Lorenzo Rosasco (2019): *Beating SGD saturation with tail-averaging and minibatching*. In Neural Information Processing Systems (NeurIPS), pp. 12568–12577.
- C22. Carlos Riquelme, Hugo Penedones, Damien Vincent, Hartmut Maennel, Sylvain Gelly, Timothy Mann, André Barreto and **Gergely Neu** (2019): *Adaptive temporal-difference learning for policy evaluation with per-state uncertainty estimates*. In Neural Information Processing Systems (NeurIPS), pp. 11872–11882.
- C21*. Wojciech Kotłowski and **Gergely Neu** (2019): *Bandit principal component analysis*. In Conference on Learning Theory (COLT).
- C20*. Gábor Lugosi, **Gergely Neu** and Julia Olkhovskaya (2019): *Online influence maximization with local observations*. In Algorithmic Learning Theory (ALT), pp. 557–580.
- C19*. **Gergely Neu** and Lorenzo Rosasco (2018): *Iterate averaging as regularization for stochastic gradient descent*. In Conference on Learning Theory (COLT), pp. 3222–3242.
- C18*. Nicolás Cesa-Bianchi, Claudio Gentile, Gábor Lugosi and **Gergely Neu** (2017): *Boltzmann exploration done right*. In Neural Information Processing Systems (NeurIPS), pp. 6287–6296.

- C17. **Gergely Neu** and Vicenç Gómez (2017): *Fast rates for online learning in Linearly Solvable Markov Decision Processes*. In Conference on Learning Theory (COLT), pp. 1567–1588.
- C16*. Tongliang Liu, Gábor Lugosi, **Gergely Neu** and Dacheng Tao (2017): *Algorithmic stability and hypothesis complexity*. In International Conference of Machine Learning (ICML), pp. 2159–2167.
- C15. Tomáš Kocák, **Gergely Neu**, Michal Valko (2016): *Online learning with Erdős-Rényi side-observation graphs*. In Uncertainty in Artificial Intelligence (UAI), pp. 339–346.
- C14. Tomáš Kocák, **Gergely Neu**, Michal Valko (2016): *Online learning with noisy side observations*. In AI&Statistics (AISTATS), pp. 1186–1194.
- C13. **Gergely Neu** (2015): *Explore no more: Improved high-probability regret bounds for non-stochastic bandits*. In Neural Information Processing Systems (NeurIPS), pp. 3150–3158.
- C12. **Gergely Neu** (2015): *First-order regret bounds for combinatorial semi-bandits*. In Conference on Learning Theory (COLT), pp. 1360–1375.
- C11. Amir Sani, **Gergely Neu** and Alessandro Lazaric (2014): *Exploiting easy data in online optimization*. In Neural Information Processing (NeurIPS), pp. 810–818.
- C10. Tomáš Kocák, **Gergely Neu**, Michal Valko and Rémi Munos (2014): *Efficient learning by implicit exploration in bandit problems with side observations*. In Neural Information Processing (NeurIPS), pp. 613–621.
- C9. **Gergely Neu** and Michal Valko (2014): *Online combinatorial optimization with stochastic decision sets and adversarial losses*. In Neural Information Processing (NeurIPS), pp. 2780–2788.
- C8. Alexander Zimin and **Gergely Neu** (2013): *Online learning in episodic Markov decision processes by Relative Entropy Policy Search*. In Neural Information Processing (NeurIPS), pp. 1583–1591.
- C7. **Gergely Neu** and Gábor Bartók (2013): *An efficient algorithm for learning with semi-bandit feedback*. In Algorithmic Learning Theory (ALT), pp. 234–248.
- C6*. Luc Devroye, Gábor Lugosi and **Gergely Neu** (2013): *Prediction by random-walk perturbation*. In Conference on Learning Theory (COLT), pp. 460–473.
- C5. **Gergely Neu**, András György and Csaba Szepesvári (2012): *The adversarial stochastic shortest path problem with unknown transition probabilities*. In AI&Statistics (AISTATS), pp. 805–813.
- C4. András György and **Gergely Neu** (2011): *Near-optimal rates for limited-delay universal lossy source coding*. In IEEE International Symposium on Information Theory (ISIT), pp. 2344–2348.
- C3. **Gergely Neu**, András György, Csaba Szepesvári and András Antos (2010): *Online Markov decision processes under bandit feedback*. In Neural Information Processing Systems (NeurIPS), pp. 1804–1812.
- C2. **Gergely Neu**, András György and Csaba Szepesvári (2010): *The online loop-free stochastic shortest path problem*. In Conference on Learning Theory (COLT), pp. 231–243.
- C1. **Gergely Neu** and Csaba Szepesvári (2007): *Apprenticeship learning using inverse reinforcement learning and gradient methods*. In Uncertainty in Artificial Intelligence (UAI), pp. 295–302.

Selected invited talks:

02/2024	Algorithmic Learning Theory (ALT 2024), San Diego, California, USA
05/2023	The 7th London Symposium on Information Theory (LSIT 2023), London, UK
05/2023	Royal Statistical Society (discussant at discussion meeting), London, UK
09/2022	The 15th European Workshop on Reinforcement Learning (EWRL 2022), Milan, Italy
10/2022	ELLIS workshop on Interactive Learning and Interventional Representations, Schwarzwald, Germany
06/2022	ELLIS workshop on Theory, Algorithms and Computations of Modern Learning Systems, Arenzano, Italy
12/2021	Workshop on Mathematical Statistics and Learning, Banff International Research Station, Banff AB, Canada
11/2021	CWI Lectures on Decision Making under Uncertainty, Amsterdam, the Netherlands
09/2020	Theory of Reinforcement Learning Boot Camp, Simons Institute, Berkeley, CA, USA (virtual)
07/2020	ICML workshop on Theory of Reinforcement Learning, Vienna, Austria (virtual)
03/2020	ELLIS workshop on Interactive Learning and Interventional Representations, Oberwolfach, Germany (virtual)
09/2019	DALI 2019 workshop on Theory, Algorithms and Computations of Modern Learning Systems, San Sebastián, Spain
12/2018	Tutorial at the Greek Stochastics Kappa workshop, Athens, Greece
11/2018	The 4th Asian Workshop on Reinforcement Learning (AWRL 2018), Beijing, China
10/2018	The 14th European Workshop on Reinforcement Learning (EWRL 2018), Lille, France
05/2018	Workshop on “Modern Challenges in Learning Theory”, Montreal, Canada
06/2017	Learning theory workshop, Foundations of Computational Mathematics, Barcelona, Spain
06/2017	Deep learning workshop, Google Zürich, Switzerland
11/2016	Tutorial at the “Theoretical Foundations for Learning from Easy Data” workshop, Lorentz Center, Leiden, The Netherlands
04/2016	DALI 2016 workshop on Reinforcement Learning, Sestri Levante, Italy
12/2015	NeurIPS 2015 workshop “Learning faster from easy data II”, Montreal, Canada
04/2015	DALI 2015 workshop on Learning Theory, La Palma, Spain
08/2013	The 11th European Workshop on Reinforcement Learning (EWRL 2013), Dagstuhl, Germany

Teaching:

2022–	Reinforcement Learning at Universitat Pompeu Fabra
2020–	Stochastic Models and Optimization at Barcelona Graduate School of Economics
2016–2020	Machine Learning at Universitat Pompeu Fabra (selected lectures)
2006–2011	TA for various courses at Budapest University of Technology and Economics (Probability Theory, Information Theory, Queuing Theory, Electromagnetic Theory)

Other Academic Activities:

Program chair	The 36th Annual Conference on Learning Theory (COLT 2023) The 31st International Conference on Algorithmic Learning Theory (ALT 2020)
General chair	The 13th European Workshop on Reinforcement Learning (EWRL 2016)
Local organization chair	The 29th International Conference on Algorithmic Learning Theory (ALT 2018)
Sponsorship chair	Association for Algorithmic Learning Theory (AALT 2021–2023)
Workshop chair	Data, Learning and Inference workshop (DALI 2020)
Social chair	Neural Information Processing Systems (NeurIPS 2019)
Steering committee	Association for Computational Learning (director, 2020–2023) Association for Algorithmic Learning Theory (steering committee member, 2020–2022, 2023–2026) European Workshop on Reinforcement Learning (acting chair of steering committee, 2022–)
PC member / Area chair	Neural Information Processing Systems (NeurIPS 2018, 2019, 2020, 2021, 2022) Conference on Learning Theory (COLT 2019, 2020, 2021, 2022) Algorithmic Learning Theory (ALT 2015, 2022)
Associate editor	Journal of Machine Learning Research (JMLR), Transactions of Machine Learning Research (TMLR), Machine Learning Journal (MLJ)

Journal reviewer	Annals of Statistics, Journal of Machine Learning Research (JMLR), Transactions of Machine Learning Research (TMLR), Machine Learning Journal (MLJ), Journal of AI Research (JAIR), AI Journal (AIJ), IEEE Trans. on Information Theory (IEEE T-IT), IEEE Trans. on Automatic Control (IEEE TAC), Automatica, Mathematical Programming, Games and Economic Behavior, Operations Research, Mathematics of OR, Theoretical Computer Science, IEEE Signal Processing Letters (IEEE SPL), IEEE Trans. on Networking (IEEE TNET), Neurocomputing
Conference reviewer	International Conf. on Machine Learning (ICML 2010–), Neural Information Processing Systems (NeurIPS 2012–), Conf. on Learning Theory (COLT 2012–), Algorithmic Learning Theory (ALT 2011–), AI & Statistics (AISTATS 2013–), IEEE International Symposium on Information Theory (ISIT 2012–), American Control Conf. (ACC 2014–), International Joint Conf. on Artificial Intelligence (IJCAI 2015–2017), International Conf. on Learning Representations (ICLR 2019)