

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:

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

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:

10/2019	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:

- 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:

- C24. Joan Bas-Serrano and **Gergely Neu** (2020): *Faster saddle-point optimization for solving large-scale Markov decision processes*. To appear in Learning for Decision and Control.
- C23. Nicole Mücke, **Gergely Neu** and Lorenzo Rosasco (2019): *Beating SGD saturation with tail-averaging and minibatching*. In Advances 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 Advances in Neural Information Processing Systems (NeurIPS), pp. 11872–11882.
- C21. Wojciech Kotłowski and **Gergely Neu** (2019): *Bandit principal component analysis*. To appear 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. Nicoló Cesa-Bianchi, Claudio Gentile, Gábor Lugosi and **Gergely Neu** (2017): *Boltzmann exploration done right*. In Advances 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 Conference on 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 Advances 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 Advances 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 Advances 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 Advances 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 Advances 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 the proceedings of the 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 Advances 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 Conference on Uncertainty in Artificial Intelligence (UAI), pp. 295–302.

Selected invited talks:

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	Multi-Armed Bandit Workshop, London, UK
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:

04/2020–06/2020	Stochastic Models and Optimization at Barcelona Graduate School of Economics
09/2016–01/2020	Machine Learning at Universitat Pompeu Fabra (selected lectures)
09/2006–01/2011	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 31st International Conference on Algorithmic Learning Theory (ALT 2020)
General chair	The 13th European Workshop on Reinforcement Learning (EWRL 2016)
Local organizer	The 29th International Conference on Algorithmic Learning Theory (ALT 2018)
Workshop chair	Data, Learning and Inference workshop (DALI 2020)
Social chair	Neural Information Processing Systems (NeurIPS 2019)
PC member / Area chair	Neural Information Processing Systems (NeurIPS 2018, 2019, 2020) Conference on Learning Theory (COLT 2019, 2020) Algorithmic Learning Theory (ALT 2015)
Journal reviewer	Journal of Machine Learning Research (JMLR), 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 2013–2019), 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)