Noémi Éltető

noemi.elteto@tuebingen.mpg.de
noemielteto.github.io
LinkedIn

Education

Max Planck Institute for Biological Cybernetics, Tübingen, Germany *2020 - present*
PhD in Computational Neuroscience

Eötvös Loránd University, Budapest, Hungary *2015-2019*
Master's Degree in Cognitive Science and Computer Science

Babes-Bolyai University, Cluj-Napoca, Romania *2012-2015*
Bachelor's Degree in Psychology Summa Cum Laude

Research experience

Google DeepMind, London, UK *April 2024 - Dec 2024*
Student Researcher
Managers: Kevin Miller and Kim Stachenfeld

New York University, New York City, USA *Sept 2023 - Nov 2023*
Visiting PhD Researcher
Host: Wei Ji Ma

Max Planck Institute for Biological Cybernetics, Tübingen, Germany *2020 - present*
PhD Student
Advisor: Peter Dayan

Max Planck Institute for Biological Cybernetics, Tübingen, Germany *2019 - 2020*
Research Assistant
Advisor: Peter Dayan

Intrexon (now Precigen), San Francisco, USA / Budapest, Hungary *2018 - 2019*
Data Scientist
Lead: Simon Prochnik

Hungarian Academy of Sciences, Budapest, Hungary *2015 - 2018*
Research Assistant
Advisor: Dezső Németh

Publications

Conference papers

[1] Saanum, T., **Éltető, N.**, Dayan, P., Binz, M., & Schulz, E. (2023). Reinforcement Learning with Simple Sequence Priors. *NeurIPS*.

[2] **Éltető, N.** & Dayan, P. (2023). Habits of Mind: Reusing Action Sequences for Efficient Planning. *CogSci*.

[3] Wu, S., **Éltető, N.**, Dasgupta, I., & Schulz, E. (2022). Learning Structure from the Ground up—Hierarchical Representation Learning by Chunking. *NeurIPS*.

[4] Schwartenbeck, P., **Éltető, N.**, Braun, A., Bányai, M., & Dayan, P. (2022). Hierarchically structured representations facilitate visual understanding. *RLDM*.

Journal papers

[1] Binz, M., ... **Éltető, N.**, ... & Schulz, E. (2024). Centaur: a foundation model of human cognition. arXiv preprint arXiv:2410.20268.

[2] Wu, S., **Éltető, N.**, Dasgupta, I., & Schulz, E. (2023). Chunking as a rational solution to the speed-accuracy trade-off. *Scientific reports, 13*(1), 7680.

[3] Kóbor, A., Tóth-Fáber, E., Kardos, Z., Takács, Á., **Éltető, N.**, Janacsek, K., ... & Nemeth, D. (2023). Deterministic and probabilistic regularities underlying risky choices are acquired in a changing decision context. *Scientific Reports, 13*(1).

[4] **Éltető, N.**, Nemeth, D., Janacsek, K., & Dayan, P. (2022). Tracking human skill learning with a hierarchical Bayesian sequence model. *PLoS Computational Biology 18*(11), e1009866.

[5] Kóbor, A., Kardos, Z., Takács, Á., **Éltető, N.**, Janacsek, K., Tóth-Fáber, E., ... & Nemeth, D. (2021). Adaptation to recent outcomes attenuates the lasting effect of initial experience on risky decisions. *Scientific reports, 11*(1), 1-20.

[6] **Éltető, N.**, Janacsek, K., Kóbor, A., Takács, Á., Tóth-Fáber, E. & Nemeth, D. (2019). Do adolescents take more risks? Not when facing a novel uncertain situation. *Cognitive Development, 50*, 105-117.

[7] Simor, P., Zavecz, Z., Horváth, K., **Éltető, N.**, Török, C., Pesthy, O., Janacsek, K., & Nemeth, D. (2019). Deconstructing procedural memory: Different learning trajectories and consolidation of Sequence and Statistical Learning. *Frontiers in Psychology, 9*, 2708.

[8] Takács, Á., Kóbor, A., Chezan, J., **Éltető, N.**, Tárnok, Z., Nemeth, D., Ullman, M.T. & Janacsek, K. (2018). Is procedural memory enhanced in Tourette syndrome? Evidence from a sequence learning task. *Cortex, 100*, 84-94.

Selected conference abstracts

[1] **Éltető, N.**, Veit, L., Koparkar, A., & Dayan, P. (2023). Variable syllable context depth in Bengalese finch songs: A Bayesian sequence model. *Cosyne*.

[2] **Éltető, N.**, Janacsek, K., Nemeth, D, & Dayan, P. (2022). Tracking human skill learning with a hierarchical Bayesian sequence model. *Cosyne*.

[3] **Éltető, N.**, Janacsek, K., Nemeth, D., & Dayan, P. (2021). Tracking the Unknown: Modeling Long-Term Implicit Skill Acquisition as Non-Parametric Bayesian Sequence Learning. *CogSci*.

[4] **Éltető, N.**, Janacsek, K., & Nemeth, D. (2018). Age-related differences in the underlying mechanism of statistical learning. *Annual Meeting of the Cognitive Neuroscience Society*.

Talks

Cortex Club, Oxford (Invited) *July 2024*
"Action sequences in animals and machines"

Compositionality Workshop, CogSci (Invited) *July 2024*
"Reusing action sequences for efficient planning"

Reinforcement learning for temporally continuous movement sequences, Cosyne (Invited) *March 2024*
"A probabilistic grammar model of bird songs"

Ölveczky Lab, Harvard (Invited) *Oct 2023*
"Principles of sequential behavior in animals and machines"

Gershman Lab, Harvard *Sept 2023*
"Habits of Mind: Reusing action sequences for efficient planning"

Computational Cognitive Science Community Forum, New York University (Invited) *Sept 2023*
"Habits of Mind: Reusing action sequences for efficient planning"

CogSci, Sydney *Aug 2023*
"Habits of Mind: Reusing action sequences for efficient planning"

Ma Lab, New York University (Invited) *Sept 2023*
"Sequential behavior and planning"

Vision Lab, Central European University (Invited) *Jan 2023*
"Hierarchical sequence models for efficient chunking of actions"

26th Annual Meeting of the Hungarian Psychological Association *June 2017*
"The interplay of implicit statistical learning and executive functions (in Hungarian)"

Teaching

Neural Modeling (reinforcement learning module), University of Tübingen, Germany *F 2023*
Role: TA; Instructors: Peter Dayan, Zhaoping Li

Cognitive Maps Seminar, University of Tübingen, Germany *F 2022*
Role: TA; Instructors: Charley Wu, Phillipp Schwartenbeck

Experimental Psychology, Pazmany Peter University, Budapest, Hungary *F 2017*
Role: TA; Instructor: Dezső Németh

Experimental Psychology, Eötvös Loránd University, Budapest, Hungary *F 2016, S 2017*
Role: TA; Instructor: Dezső Németh

Service

Cybernetic Seminar Series, Max Planck Institute for Biological Cybernetics *2023*
Yearly Co-Organizer

Max Planck PhDnet *2022, 2023*
Organizer of the student representative elections

Reviewer for CogSci *2021*

6th Implicit Learning Seminar, Eötvös Loránd University, Budapest, Hungary *2017*
Co-organizer

Hungarian Students' Union, Cluj-Napoca, Romania *2012-2014*
Organizing member (social and scientific events, student conferences)

Outreach

Speaker at TEDx Targu Mures *2024 February*
Talk title: Artificial Intelligence Becomes Natural

Technical Skills

Natural languages: Hungarian, English
Programming languages: Python, R, MATLAB, HTML/JavaScript

Summer schools

Brains, Minds, and Machines Summer Course, Woods Hole, MA, USA *Aug 2023*
European Summer School on Eye Movements, Bonn, Germany *May 2018*

Honors and awards

Glushko Travel Award for attending CogSci *2023*
International Max Planck Research School (IMPRS) Fellowship *2022 - present*
Fellowship of the Hungarian Excellence Program *2016, 2017*
Republican Fellowship of Hungary *2016, 2017, 2018*
Member of the College Club for Academic Excellence, Babes-Bolyai University *2015 - 2016*
Hungarian National Scientific Students' Associations Conference 3rd prize *2015*
Fellowship of the Talent Program of the Balassi Institue *2014 - 2015*
Fellowship of the Ministry of Human Resources to talents living in Hungarian minorities *2014 - 2015*

Interests beyond science

cinema, perfume, taekwondo, calisthenics, sauna & cold dips, diving, cappuccino, always interested in others' interests