

MINIJA TAMOŠIŪNAITĖ

Research field: Investigation of the signal-to-symbol gap problem from cognitive science and robotics perspective.

We, humans, sense the external world by signals acquired through senses (e.g. based on images we see, sounds we hear, etc.). However, many times we reason using discrete concepts. Based on our discrete decisions, actions are performed in continuous world again, using continuous trajectories. How continuous sensing is transformed into discrete concepts in the human brain it is not known. Not having this knowledge, we also can not develop robots which can generalize as efficiently as humans do. My research field includes traditional AI and neural network models for filling the gap between continuous signals and discrete symbols.

Pagrindiniai straipsniai

Tamosiunaite, M., Kulvicius, T., & Wörgötter, F. (2022). Bootstrapping Concept Formation in Small Neural Networks. *IEEE Transactions on Cognitive and Developmental Systems* (Early Access), DOI: [10.1109/TCDS.2022.3163022](https://doi.org/10.1109/TCDS.2022.3163022)

Tamosiunaite, M., Aein, M. J., Braun, J. M., Kulvicius, T., Markiewicz, I., Kapociute-Dzikiene, J., ... & Wörgötter, F. (2019). Cut & recombine: reuse of robot action components based on simple language instructions. *The International Journal of Robotics Research*, 38(10-11), 1179-1207.