ELTE | FACULTY OF INFORMATICS

ADND PROJECT TOPICS

Natabara Gyöngyössy

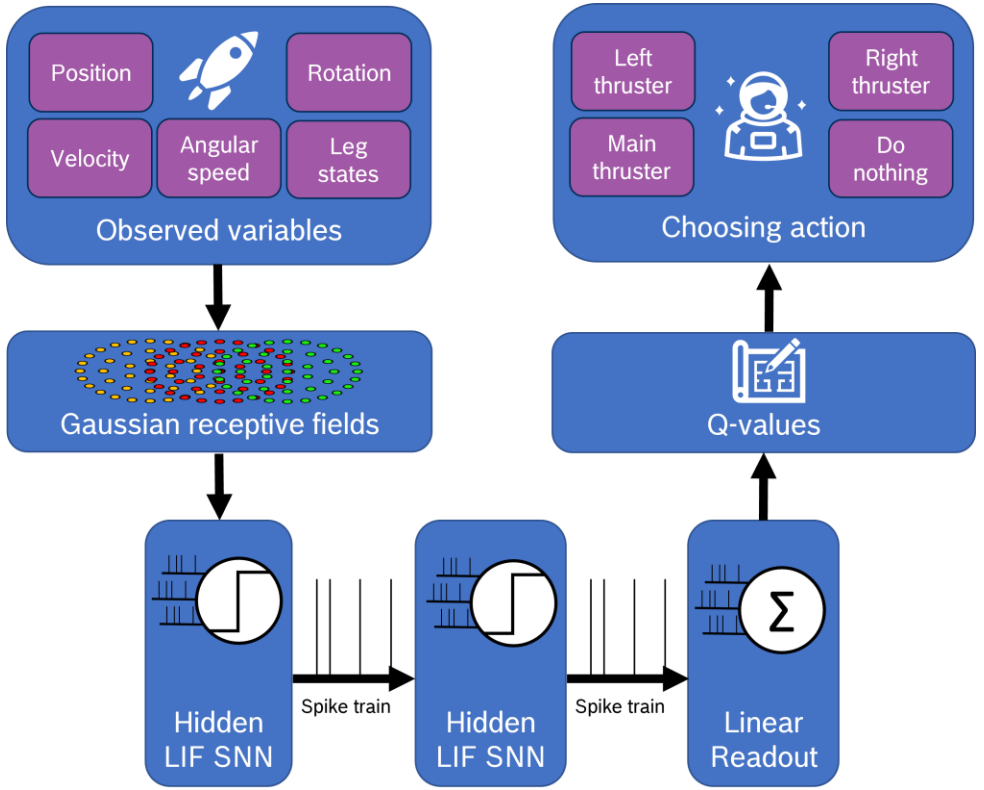
PhD Student

Personal Interests

- Neuromorphic Computing (Spiking Neural Networks)
- NLP
- Cognitive Robotics

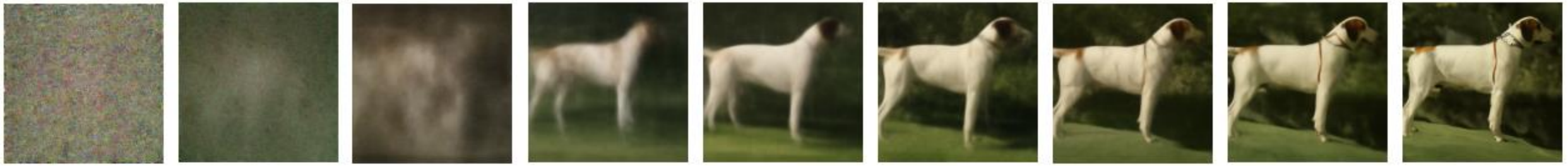
Spiking Deep Q-Learning

- Get to know Deep SNN basics
- Implement Deep Q-Learning using PySNN
- Benchmark on smaller tasks (Gym, DeepMind benches)
- Compare time, rate, non-spiking encoded network performances
- If things go well…: Conclude findings in a shorter conference paper



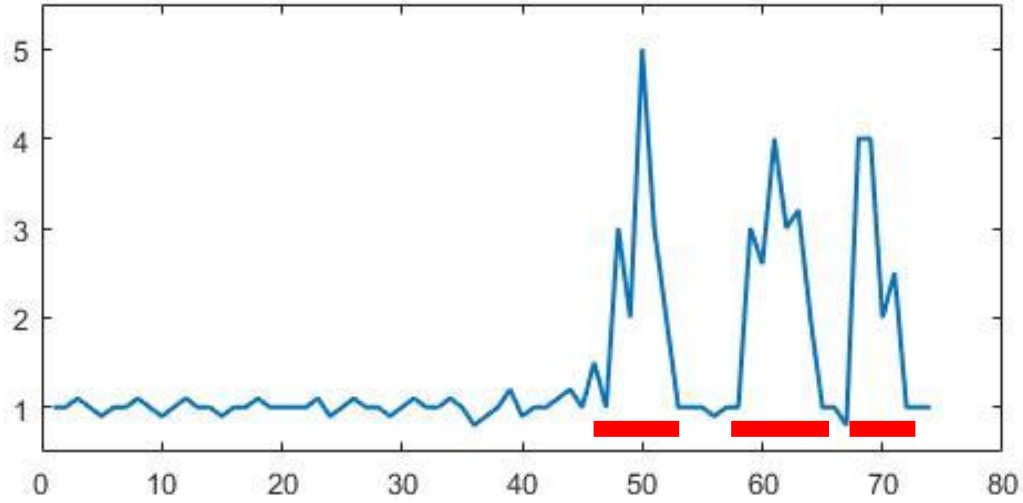
Guided Diffusion Fine-tune for Pattern Generation

- Deep-dive into guided diffusion models (DALL-E, DISCO, StableDiffusion)
- Fine-tune using small Hungarian folk art collections
- Test generative capabilities with and without text conditioning



Event Detection in Industrial Time Series

- Artificial general time series data generation with automatic labeling
- Training using Spatial Attention Transformers
- Test capabilities on real-world dataset



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Thank you for your attention!