Grigorii Veviurko

+31634295341 g.veviurko@tudelft.nl linkedin/grivurko github/veviurko

Skills

Core: Mathematics, Reinforcement Learning, Optimization, Computer Vision, LLMs & VLLMs
Programming: Python, PyTorch, TensorFlow, Scikit-Learn, Pandas, Transformers, LangChain, CrewAI, Bash
Tools: Linux, Git, Docker, Google Cloud Platform, Weights & Biases, LaTeX, VS Code, Slurm
Languages: Russian (native), English (fluent), German (B1), Dutch (A2)

Experience

Research Intern **Mar 2024 - June 2024**
Nokia Bell Labs *Stuttgart, Germany*

- With Transformers and Hugging Face, designed and fine-tuned a large vision-language model for web task automation, **achieving 70% accuracy.**
- Built a prototype of a fully autonomous web navigation agent interacting with user and performing tasks in a browser.
- Using PyTorch, created a simulation environment for home energy management systems; implemented and evaluated five decision-focused learning approaches to home energy management, identifying their business value.
- Using React and TypeScript, built a dashboard web app for energy management.

PhD Candidate **July 2020 - Nov 2024**
Delft University of Technology *Delft, Netherlands*

- Proposed a novel maximum-reward reinforcement learning paradigm that achieves up to **100% better success rates** in navigation and goal-reaching tasks.
- Identified and solved vanishing gradient problems in differentiable optimization, achieving up to **80% performance improvement** and enabling wider adoption across logistics, finance, and supply chain applications.
- Proposed an electric vehicle charging optimization method under partial observability, **reducing operational costs by 20%,** while preserving user privacy in smart grid systems.
- Developed a learning-based algorithm for autonomous microgrid control; tested it in a **real DC microgrid.**

Max Delbrück Center for Molecular Medicine **Nov 2017 - July 2020**
Research Assistant *Berlin, Germany*

- Created a TensorFlow pipeline for automated Naked mole-rat vocalization detection and classification, **reducing annotation time by 80%** versus expert labeling and enabling ongoing research studies.
- Developed an automated vocalization analysis system using TensorFlow and Scikit-learn, enabling efficient processing of **40,000+ Naked mole-rat sounds.**
- Proved the existence of dialects in Naked mole-rat, contributing to a publication in *Science* with **100+ citations.**

Education

Delft University of Technology **July 2020 - Nov. 2024**
PhD in Computer Science *Delft, Netherlands*

Bernstein Center of Computational Neuroscience **Sep 2017 - Dec 2019**
MSc in Computational Neuroscience *Berlin, Germany*

National Research University Higher School of Economics **Sep 2013 - June 2017**
BSc in Mathematics *Moscow, Russia*

Key Publications

- Barker A. J., **Veviurko G.**, Bennett N. C., Hart D. W., Mograby L., Lewin G. R., "Cultural Transmission of Vocal Dialect in the Naked Mole-Rat", 2021, Science.
- **Veviurko G.**, Böhmer W., de Weerdt M., "To the Max: Reinventing Reward in Reinforcement Learning", 2024, ICML 2024.
- **Veviurko G.**, Böhmer W., de Weerdt M., "You Shall Pass: Dealing with the Zero-Gradient Problem in Predict and Optimize for Convex Optimization", 2023, arXiv:2307.16304.
- **Veviurko G.**, Böhmer W., de Weerdt M., "Surrogate DC Microgrid Models for Optimization of Charging Electric Vehicles under Partial Observability", 2022, Energies.