Artem Zholus

 github linkedin website scholar

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Research Goal: Build adaptive & autonomous agents that solve open-ended tasks.

Current Project: Using automated feedback from an embodied RL agent to improve Language Models'
groundedness (RL from Computational Feedback). **My proposal won external funding for the lab.**

EDUCATION

- **PhD in AI: MILA, Polytechnique Montréal: polymtl.ca**   Montréal, Canada
  PhD in RL+NLP under Sarath Chandar, chandar-lab.github.io   Jan. 2023 – Jan. 2027

- **MSc in AI: Moscow Institute of Physics and Technology : mipt.ru/en**   Moscow, Russia
  MSc of Artificial Intelligence and Machine Learning   Sept. 2020 – Aug. 2022
    ○ **GPA**: 5.0/5 (top 3% out of 400 students), Degree with honors
    ○ **Funding**: Study grant from a private fund (top-1% of applicants)
    ○ **Thesis**: Task generalization in reinforcement learning for robotic control with learned world models

- **BSc in CS: ITMO University : en.itmo.ru**   Saint Petersburg, Russia
  BSc of Applied Mathematics and Informatics   Sep. 2014 – Aug. 2018
    ○ **GPA**: 4.21/5 (top 10% / 120 students); **Major:** Applied Maths & Computer Science; **Minor:** Software Eng.

RESEARCH EXPERIENCE

- **EPFL: École Polytechnique Fédérale de Lausanne (EPFL) : epfl.ch**   Lausanne, Switzerland
  Master's Enhancement Internship @ VILAB [vilab.epfl.ch]   Sept. 2022 – Sept 2023
    ○ Project in Multimodal Vision Representation learning.
  Summer Research Intern (top 2% out of 1800 applicants) @ LIONS lab   May 2022 – August 2022
    ○ Project in deep RL for zero-sum games based on the theoretical results from the LIONS lab

- **Insilico Medicine : insilico.com**   Saint Petersburg, Russia
  Research Engineer, core AI team @ chemistry42 SaaS drug discovery platform   Sep. 2018 - Mar. 2021
    ○ Developed and deployed two top-performing drug-discovery RL algorithms in production.
    ○ Worked on the company's bespoke deep learning framework used in research and production.
  Research Engineering Intern   July 2017 – Aug. 2018
    ○ Built molecular sequential generative models for drug discovery projects.

PAPERS

- Mohammad Reza Samsami*, **Artem Zholus***, Janarthanan Rajendran, Sarath Chandar. *Mastering Memory Tasks with World Models* **(oral, top-1.2%) ICLR 2024** [openreview];
  Agent Learning in Open-Endedness workshop at NeurIPS 2023

    ○ Large margin state-of-the-art performance in a diverse set of memory reinforcement learning domains: bsuite, POPgym, Memory Maze. Builds upon DreamerV3 and SSMs.

- **Artem Zholus**, Alexey Skrynnik, Shrestha Mohanty, Zoya Volovikova, Julia Kiseleva, Artur Szlam, Marc-Alexandre Côté, Aleksandr I. Panov. *IGLU Gridworld: Simple and Fast Environment for Embodied Dialog Agents.* **Embodied AI workshop, CVPR 2022.** [arxiv]

- Julia Kiseleva*, Alexey Skrynnik*, **Artem Zholus***, Shrestha Mohanty*, Negar Arabzadeh*, Marc-Alexandre Côté*, Mohammad Aliannejadi, Milagro Teruel, Ziming Li, Mikhail Burtsev, Maartje ter Hoeve, Zoya Volovikova, Aleksandr Panov, Yuxuan Sun, Kavya Srinet, Arthur Szlam, Ahmed Awadallah. *IGLU 2022: Interactive Grounded Language Understanding in a Collaborative Environment at NeurIPS 2022.* **NeurIPS Competition, 2022** [arxiv]

- **Artem Zholus**, Yaroslav Ivchenkov and Aleksandr Panov. *Factorized World Models for Learning Causal Relationships.* **OSC Workshop, ICLR 2022.** [link] [poster]