Bartłomiej Cupiał

github webpage twitter scholar

Education

University of Warsaw - PhD Student (October, 2023 - July, 2027)
Research in Reinforcement Learning and Large Language Models

Jagiellonian University - Master Student (October, 2021 - July, 2023)
Thesis topic "How to best transfer knowledge in reinforcement learning?"

Wrocław University of Science and Technology - Bachelor Student (October, 2016 - February, 2020)
Thesis topic “Camera recognition from photos”

Research Experience

Google, under Jarek Kochanowicz - Intern (June, 2026 - September, 2026)
Teaching LLMs to learn from feedback

Sakana AI, under Jeffrey Seely - Research Intern (September, 2025 - January, 2026)
Decentralized multi-agent coordination via Sheaf-Constrained ADMM

UCL Dark, under Tim Rocktäschel - Visiting Scholar (January, 2025 - July, 2025)
Eliciting dynamic planning for LLM Agents with PPO

IDEAS NCBR - AI Researcher (January, 2023 - present)
Research in Reinforcement Learning and Large Language Models

FNP Team-Net Grant - Research Intern (October, 2022 - July, 2023)
Research on GAN-based Plugin Models for Video Generation

Industry Experience

Hemolens Diagnostics - Machine Learning Engineer and Team Lead (November, 2019 - October, 2022)
Research & Development for automation of non-invasive cardiac diagnostics system

Asseco - C++ Developer in starter program (July, 2019 - October, 2019)
Development & Maintenance of national social insurance system (KSI ZUS)

Lectures and presentations

MLinPL Conference Speaker, Warsaw, Poland (November, 2024)

Giving seminar University College London (June, 2024)

Giving seminar Korea Institute For Advanced Study (June, 2024)

Conducting Workshops in Solvro Students' Association (February, 2020)

MLinPL Conference Student Speaker, Warsaw, Poland (November, 2019)

Selected Publications

1. Up and Down the Abstraction Ladder: Code-Based Skills for Language Agents

Arxiv preprint · Co-first author
AKCES NCBR, University of Warsaw
https://arxiv.org/abs/2609.31076

2. Learning Multi-Agent Coordination via Sheaf-ADMM

ICML 2026 · Co-first author
Sakana AI, AKCES NCBR, University of Warsaw
https://arxiv.org/abs/2605.31005

3. Learning When to Plan: Efficiently Allocating Test-Time Compute for LLM Agents

NeurIPS 2026 Meta-Agents Workshop · Co-first author
IDEAS NCBR, University of Warsaw, University College London
https://arxiv.org/abs/2509.03581

4. BALROG: Benchmarking Agentic LLM and VLM Reasoning On Games

ICLR 2025 · Co-first author
IDEAS NCBR, University of Warsaw
https://arxiv.org/abs/2411.13543

5. Fine-tuning Reinforcement Learning Models is Secretly a Forgetting Mitigation Problem

Spotlight at ICML 2024 · Co-first author
IDEAS NCBR, University of Warsaw, Jagiellonian University
https://arxiv.org/abs/2402.02868

6. GAN-based Plugin Model for Video Generation with Applications in Colonoscopy

PLOS ONE · Fourth author
Jagiellonian University
https://arxiv.org/pdf/2311.03884

Patents

1. Non-invasive diagnosis of coronary artery disease (CAD)

Author of the two patents in medical domain

Hemolens Diagnostics (November, 2019 - October, 2022)

Non-invasive diagnosis involves a multi-step process utilizing advanced imaging and computational techniques. The procedure begins with creating a high-resolution CT scan of a patient chest area. Then coronary arteries are extracted with deep learning methods, by performing segmentation and conversion into triangular meshes. Finally computational fluid dynamics (CFD) simulation is performed to simulate blood pressure before and after coronary artery stenosis. The process allows doctors to diagnose CAD accurately without the discomfort and risks associated with invasive diagnosis.

https://patentscope.wipo.int/search/en/detail.jsf?docId=WO2023166330

https://patentscope.wipo.int/search/en/detail.jsf?docId=WO2024134284