Dr. Kirill Krinkin

Independent Scholar • Head of Research Lab/Team, JetBrains

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Research Interests

My work targets Embodied Intelligence and Human–Machine Interoperability: efficient perception for autonomous agents via Dempster–Shafer and multi-agent techniques; OS abstractions supporting closed-loop AI control; and co-evolutionary hybrid intelligence frameworks integrating natural and artificial cognition.

Appointments

- Head of Research Team, JetBrains, 2015–present
- Adjunct Professor, Constructor University Bremen, 2022–present
- Visiting Professor, Neapolis University Pafos, 2022–present

Education

- PhD, Software Engineering, St.-Petersburg ETU "LETI", 2004
- Specialist (cum laude), Software Engineering, KNASTU, 2000

Selected Publications & Patents

- K.Krinkin, Y.Shichkina, A.Ignatyev. "Co-evolutionary hybrid intelligence is a key concept for the world intellectualization." *Kybernetes*, 52(9):2907–2923, 2023.
- K.Krinkin, T.Berlenko. "«Flipped» University: LLM-Assisted Lifelong Learning Environment." arXiv:2409.10553 [cs.CY], (Preprint ICONIP-2024) 2024.
- K.Krinkin, Y.Shichkina. "Cognitive Architecture for Co-evolutionary Hybrid Intelligence." In B. Goertzel et al. (Eds.), *AGI 2022*, LNCS 13539, pp. 293–303. Springer, 2023.
- A.Huletski, D.Kartashov, K.Krinkin. "VinySLAM: an indoor SLAM method for low-cost platforms based on the Transferable Belief Model." In *Proceedings of the 2017 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, Vancouver, Canada, September 24–28, 2017, pp. 6770–6776. DOI: 10.1109/IROS.2017.8206595

Patents

- **US11353856B2:** System and method for flexible manufacturing, 2020.
- **US11414152B2:** Two-wheel automatic guided vehicles, 2019.

Open-Source Projects

- MDBCI – automation toolkit (`https://github.com/mariadb-corporation/mdbci`)
- SLAM Constructor – modular SLAM Framework for ROS (`https://github.com/OSLL/slam-constructor`)
- Virtual HSM – Container Hardware Security Modules (`https://github.com/OSLL/vhsm`)

Teaching & Outreach

- Courses: Operating Systems; Computer Arcitecture, Mobile Robotics; Co-evolutionary Hybrid Intelligence
- Founder, Joint Advanced Student School (JASS): `jass.school`
- Online lectures:(RU/EN) Container virtualization, Operating Systems Intro (RUS), Computer Architecture (RUS)

Grants & Awards

- Co-Evolutionary Hybrid Intelligence, Federal grant No. 075-15-2020-933, 2018–2020
- Lead, Priority-2030 Academic Leadership, Federal program No. 075-15-2021-1318, 2020–2022
- AI Driving Olympics: ICRA & NeurIPS 1st place, 2018–2019

Professional Service & Memberships

- Reviewer for journals in Software Engineering, Networking, OS, Robotics
- Guest Editor, Sensors Special Issue "Human–Machine Intelligence Hybridization", 2021–2022
- ISO TC 164 "Artificial Intelligence", State (RF) Representative, 2020–2022
- Member, IEEE Robotics & Automation Society, 2020–present

Languages

Russian (native); English (advanced)