Koffivi Fidèle Gbagbe

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Technical and Analytical skills

- **Programming Languages:** Python, PyTorch, TensorFlow, C, C++, CUDA C/C++ and Bash
- Database Management System: MySQL, SQLite, MongoDB
- Simulation and Modeling: Isaac Sim, Gazebo, Robot Operating System (ROS)
- Version Control: Git (GitHub)
- Development Tools: Visual Studio Code, Docker, Flask, GCC, NVCC, Make, CMake
- Language: English (fluent), French (native), Russian (intermediate)

Education

- 2022–2024 Master's degree in Advanced Computational Science, Skolkovo Institute of Science and Technology (Skoltech), Moscow-Russia,
- O 2021–2022 Master's degree in Mathematical Sciences, African Institute for Mathematical Sciences (AIMS), Kigali-Rwanda,
- o 2015–2019 Bachelor's degree in Mathematics, University of Lomé, Lomé-Togo,

Research Experience

- **Skoltech Master's Thesis**: "Robotic Skill Synthesis for Bimanual Dexterous Manipulation based on Vision-Language-Action Model"
 - **Supervisor:** Prof. Dzmitry Tsetserukou (ISR-Lab, Skoltech Russia)
- AIMS-Rwanda Master's Thesis: "Approximation of Nonlinear Inverse Operators using Neural Networks with an Application to the Inverse Gravimetry Problem"
 Supervisor: Prof. Jodi Mead (Professor of Mathematics, Boise State University - USA)

Working Experience

- Junior Lab Assistant at Nanosemantics (July December 2024) "Developping a joint localisation system for several drones using ROS2, ArduPilot and Gazebo."
 References: Aleksey Fedoseev
- ML Intern at AI Medtech (June October 2023): "Development of machine learning methods (Transformer and CatBoost) for rolling window forecasting of complex table data"
 References: Dr. Oleg Kiriukhin and Dr. Oleg Rogov

Accepted Papers

- o K. Fidele Gbagbe, M. Altamirano Cabrera, A. Alabbas, O. Alyounes, A. Lykov, D. Tsetserukou, "Bi-VLA: Vision-Language-Action Model-Based System for Bimanual Robotic Dexterous Manipulations," in Proc. IEEE Int. Conf. Systems, Man, and Cybernetics (SMC 2024), Sarawak, Malaysia, 6-10 Oct., 2024, in print. (Scopus and WoS, H-index (SJR)=66)
- o A. Lykov, M. Altamirano Cabrera, K. Fidele Gbagbe, D. Tsetserukou, "Robots Can Feel: **LLM-based Framework for Robot Ethical Reasoning,"** in Proc. IEEE Int. Conf. Foundation and Large Language Models (FLLM 2024), Dubai, UAE, 26-29 Nov., 2024.

Submitted Papers

- o A. Lykov, M. Konenkov, K. Fidele Gbagbe, M. Litvinov, D. Davletshin, A. Fedoseev, M. Altamirano Cabrera, R. Peter, D. Tsetserukou, "CognitiveOS: Large Multimodal Model based System to Endow Any Type of Robot with Generative AI," Submitted for the 2025 IEEE International Conference on Robotics & Automation, 19–23 May, Atlanta, USA.
- A. Lykov, M. Altamirano Cabrera, M. Konenkov, V. Serpiva, K. Fidele Gbagbe, A. Alabbas, A. Fedoseev, L. Moreno, H. Khan, Z. Guo, D. Tsetserukou, "Industry 6.0: New Generation of Industry driven by Generative AI and Swarm of Heterogeneous Robots," Submitted for the 2025 IEEE International Conference on Robotics & Automation, 19–23 May, Atlanta, USA.

Awards

- Skoltech Innovation Workshop 2023: Best Cohort Project.
- ESMT-Berlin Industry Immersion Program 2022.
- Next Einstein Initiative Master's Scholarship Award at the African Institute for Mathematical Sciences, Rwanda.

References

o Prof. Dzmitry Tsetserukou o Prof. Blaise Tchapnda Head of the Intelligent Space Robotics Laboratory/ Center for Digital Engineering at Skoltech Email:

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