

Georgii Mikriukov, PhD (Dr.-Ing.)

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About me

PhD AI Expert with 7+ years of experience in **academic and industrial R&D**. I work on **ML/DL** methods for **computer vision, NLP**, and **multimodal systems**, focusing on trustworthy AI, including safety validation, model robustness, and interpretability. I have contributed to **safety-critical applications** (autonomous driving, remote sensing) and delivered both **research** outputs and **production-ready** solutions. Experienced in supervising students and PhD candidates, leading research projects, and driving collaborative grant proposals.

Key Achievements

- **Integrated model validation tools into enterprise AI pipelines** in collaboration with SWE, DevOps, and product teams.
- **Reduced model verification complexity by 50+%** via automated techniques (e.g., OOD and drift detection) for ViTs and CNNs.
- **Developed enterprise RAG-based AI assistant** using LLaMA3 with QLoRA fine-tuning and brand-aware response integration.
- **Improved image-text retrieval performance by 6%** using self-supervised learning with LLMs and CNNs.
- **Designed rule-aware vehicle trajectory prediction**, integrating traffic rules (LLMs) with scene perception (CNNs, ViTs).
- **Implemented cyber-forensics tools for NLP and audio**: data crawling, processing, curation, classification, and topic modeling.
- **Developed and open-sourced [LoCE Project](#) in Continental's repo**, ensuring license compliance (BlackDuck) and code quality.
- **Contributed to industrial and government-funded AI/ML projects** in research and production.
- **Filed 5+ patents and published 5+ papers** at major conferences and journals; won the best industry paper award.
- **Mentored interns and students** on ML research projects and development best practices.

Tech Stack

ML/DL	PyTorch, TensorFlow, scikit-learn, HuggingFace (transformers, peft, bitsandbytes, accelerate), LangChain, NLTK
MLOps	Docker (Compose), AWS (S3, EC2), GCP, Git, CI/CD, Model validation (TensorBoard)
Data	NumPy, SciPy, Pandas, ETL, SQL (Oracle, PostgreSQL), NoSQL (MongoDB, InfluxDB), Vector search (FAISS)
Development	Python, Java, SQL, Bash, FastAPI, REST, Rapid Prototyping, MVP, Production-ready documentation
Concepts	CV, NLP, XAI, Multimodal, Retrieval, Adversarial Attacks, Data Drifts, Self-supervised Learning
Other	GitHub, GitLab, Jira, Confluence, BlackDuck, Research & Patent Writing, Mentorship

Professional Experience

Postdoc	ATB Potsdam, Data Science Lab	Sep. 2025 – Now
AI Engineer (R&D)	Continental AG, AI Lab Berlin	Jan. 2022 – Aug. 2025
Research Associate	Technische Universität Berlin, RSIM	Dec. 2020 – Dec. 2021
Research Associate	Fraunhofer FOKUS / TU Berlin, AV	Nov. 2019 – Aug. 2020
Research Associate	Hochschule Mittweida, FoSIL	Jan. 2018 – Oct. 2019

Education

Doctor of Engineering	IWIT, Hochschule Anhalt	Apr. 2022 – Mar. 2026
M.Sc. in Information Management	Hochschule Anhalt	Oct. 2015 – Jul. 2017
B.Eng. in Automation Engineering	Perm Polytechnic University	Sep. 2011 – Jun. 2015

Selected Patents

EP 4421682	Method for finding the cause of detection failures of an artificial neural network
DE 102023212859	Method for checking a machine learning-based model for an error

Selected Publications

IJCV 2025	Local Concept Embeddings for Analysis of Concept Distributions in Vision DNN Feature Spaces
XAI 2024	Unveiling the Anatomy of Adversarial Attacks: Concept-Based XAI Dissection
XAI 2023	Evaluating the Stability of Semantic Concept Representations in CNNs (🏆 Best Industry Paper Award)
ICASSP 2022	Unsupervised Contrastive Hashing for Cross-Modal Retrieval in Remote Sensing

Languages

English (C1), German (C1), Spanish (A2), Mandarin Chinese (A2), Russian (native)