

ERNESTS LAVRINOVICS

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Summary

PhD Fellow in Natural Language Processing (NLP) specializing in large language models (LLMs), with research focused on factuality, hallucination mitigation and methods of optimal knowledge injection. Experienced in deep learning, knowledge graphs, NLP, and software engineering as well as AI model compression methods explored throughout my CERN internship. Open for further industrial research internships to expand my academic and engineering skills in a collaborative setting and working on contemporary AI challenges.

Work Experience

ML Research Intern - Nokia Bell Labs(Antwerp, Belgium), full-time Sept. 2026 - Dec. 2026

- Research on multi-attribute LLM activation steering

ML Research Intern - CERN (Geneva, Switzerland), full-time Dec. 2025 - May. 2026

- Research on LLM Compression using singular value decomposition and knowledge distillation

PhD Fellow - Aalborg University (Copenhagen, Denmark), full-time Sept. 2024 - Mar. 2028

- Research on LLM factuality through knowledge-graph and LLM synergy.

Research Assistant - Aalborg University (Copenhagen, Denmark), full-time Feb. 2024 - July. 2024

- Research on modular deep learning and transfer learning for low-resource languages

Student Research Assistant - Aalborg University (Copenhagen, Denmark), part-time Sept. 2023 - Dec. 2023

- Computer-vision and wearable sensor based movement analysis for physiotherapeutical purposes
- Driving the practical development of data gathering, AI model development and evaluation

Teaching Assistant - Aalborg University (Copenhagen, Denmark), part-time Sept. 2023 - Dec. 2023

- Technical assistance to students during lab sessions
- Lab and lecture material preparation and contributions
- Full curriculum: github.com/SMC-AAU-CPH/ML-For-Beginners

Student Software Developer - Billetto (Copenhagen, Denmark), part-time Sept. 2021 - Aug. 2023

- Native Android development in Java/Kotlin
- Data analysis, research, user behaviour mapping, app statistics
- Codebase maintenance, optimization and new feature implementation

Engineer - Fraunhofer IIS (Erlangen, Germany), full-time Sept. 2018 - Jul. 2021

- VR/AR Development in Unity targeted for HoloLens1/2, Magic Leap, HTC Vive platforms
- Development and maintenance of an audio evaluation platform for 6DoF audio testing
- Quality-of-experience testing
- Co-supervision of a bachelor thesis

Education

Guest Student - IT University of Copenhagen Fall, 2023

- Advanced Natural Language Processing
- Data Mining

MSc Medialogy - Aalborg University 2021 - January 2024

- Thesis: Role of Samplers in Diffusion-Based Speech Enhancement
- Multimodal Perception and Cognition
- Machine Learning for Media Technology
- Algorithms and Data Structures
- Image Processing and Computer Vision
- Modeling Physical Systems
- Foundations of Computer Graphics

Guest Student - University of Copenhagen Fall, 2022

- Fair and Transparent Machine Learning Methods
- Natural Language Processing

List of Publications

1. Lavrinovics, E., Biswas, R., Bjerva, J., & Hose, K. (2025). Knowledge Graphs, Large Language Models, and Hallucinations: An NLP Perspective. *Journal of Web Semantics*, 85, 100844.
2. Lavrinovics, E., Biswas, R., Hose, K., & Bjerva, J. (2025). MultiHal: Multilingual Dataset for Knowledge-Graph Grounded Evaluation of LLM Hallucinations. *43rd International Conference on Machine Learning (ICML 2026)*
3. Lavrinovics, Ernests, et al. "SigmaScale: LLM Compression with SVD-based Low-Rank Decomposition and Learned Scaling Matrices." *arXiv preprint arXiv:2606.07098* (2026).
4. Lent, H., Tatariya, K., Dabre, R., Chen, Y., Fekete, M., Ploeger, E., Lavrinovics, E. ... Others. (2024). CreoleVal: Multilingual multitask benchmarks for creoles. *Transactions of the Association for Computational Linguistics*, 12, 950–978.
5. Fekete, M., Lavrinovics, E., Robinson, N., Lent, H., Dabre, R., & Bjerva, J. (2024). Leveraging Adapters for Improved Cross-lingual Transfer for Low-Resource Creole MT. *Proceedings of the Fourth Workshop on Multilingual Representation Learning (MRL 2024)*, 212–215.
6. Fekete, M., Robinson, N. R., Lavrinovics, E., Jean-Baptiste, D., Dabre, R., Bjerva, J., & Lent, H. (2025). Limited-Resource Adapters Are Regularizers, Not Linguists. *Proceedings of the 63rd Annual Meeting of the Association for Computational Linguistics:(Volume 2: Short Papers)*. Association for Computational Linguistics.
7. Hansen, M. G., Lavrinovics, E., Sørensen, J. U., & Debarba, H. G. (2022). Using Image Synthesis Frameworks to Produce Stereoscopic Views for Mobile AR: a Comparative Study. *Proceedings of the 24th Symposium on Virtual and Augmented Reality*, 132–136.

Work in Progress: Lavrinovics, Ernests, et al. "EigenGym: Towards Surgical Knowledge Unlearning in LLMs", 2026

Grants

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Skills

Fields: Software Development, AI, Data Science, Software Design Patterns

Techs: Python, Git, C++, CI/CD pipelines, Linux, Torch, HuggingFace, SLURM

Activities: Music, sports, open source

Languages: Latvian (Native), English (C2), German (B1)
