Rita Sevastjanova

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Senior scientist with 10+ years of experience at the intersection of cutting-edge research and real-world deployment of artificial intelligence (AI). Proven track record in leading high-impact research programs, securing competitive funding, and driving industry collaborations and revenue generation. Recognized for advancing the understanding of model behavior and fairness, grounded in award-winning doctoral research on the linguistic capabilities and limitations of large language models (LLMs). Currently focused on explainability of LLMs and multimodal models at ETH Zurich, developing methods to mitigate hallucinations, resolve ambiguous user queries, and enable safe, trustworthy deployment of agent-based systems in production environments.

EXPERIENCE

ETH ZURICH
Postdoctoral Researcher in Computer Science
Interactive Visualization and Intelligence Augmentation Lab
Nov 2023 – now | Zurich, Switzerland

UNIVERSITY OF KONSTANZ
Research Associate in Computer Science
Data Analysis and Visualization Group
Nov 2017 – Nov 2023 | Konstanz, Germany

UNIVERSITY OF KONSTANZ
Research Assistant in Computer Science
Data Analysis and Visualization Group
Aug 2013 – Sept 2017 | Konstanz, Germany

PROJECTS

ARTEFACTS OF THE FUTURE | with Bioethics Lab, ETHZ | project lead and developer
Oct 2025 – Present | Zurich, Switzerland
The project is a speculative exhibition that pairs 3D-printed sculptures with AI-powered, RAG-based chatbots, each tailored to the unique persona of its corresponding artefact.

PERSONALIZED VA | with IVDA Lab, UZH | project lead and developer
Sept 2025 – Present | Zurich, Switzerland
The project explores natural language as a medium for eliciting user preferences in ranking-based tasks, while addressing ambiguity and uncertainty in interpretation and modeling.

EVOLVE | with foryouandyourcustomers | project lead
Jan 2024 – Present | Zurich, Switzerland
The project (semi)automates the generation of "exploded view," which defines the layers of a business institution's data and their relations.

REPORT ANALYSIS | funded by GIZ | developer
2022 – 2023 | Konstanz, Germany
The project combined LLM fine-tuning and text mining methods for analyzing evaluation reports of international organizations.

LINVIS.IO | developer
2017 – 2023 | Konstanz, Germany
The project developed text-mining pipelines and web-based visualizations for applications ranging from (e.g., political) discourse analysis to language model explainability.

QUESTIONS VISUALIZED | funded by DFG | developer
2017 – 2023 | Konstanz, Germany
The project conducted interdisciplinary research on question classification tasks and developed interactive visual analytics systems for question annotation and analysis.

PERSONAL INFORMATION

Date of birth: 27.09.1988
Nationality: Latvian

EDUCATION

UNIVERSITY OF KONSTANZ
P.h.D. in Natural Sciences (Dr.rer.nat.)
2017-2023 | Konstanz, Germany
Thesis: "Interactive Visual Investigation of Word Embedding Contextualizations in Large Language Models"
Received Südwestmetall-Förderpreis (5000€) for an outstanding dissertation.

UNIVERSITY OF KONSTANZ
Master of Science, Computer and Information Science
2016-2017 | Konstanz, Germany

UNIVERSITY OF KONSTANZ
Bachelor of Science, Information Engineering
2012-2016 | Konstanz, Germany

UNIVERSITY OF LATVIA
Bachelor of Arts, Sinology
2008-2011 | Riga, Latvia

RESPONSIBILITIES

ACQUISITION OF FUNDING
Nov 2023 – now | Zurich, Switzerland
Leads the development of research proposals and the acquisition of external research funding.

RECRUITMENT
Nov 2023 – now | Zurich, Switzerland
Leads recruitment of PhD candidates and evaluation of fellowship applications.

PROJECT MANAGEMENT
Nov 2023 – now | Zurich, Switzerland
Develops and manages collaborations with external partners, negotiating project scope and aligning objectives.

SUPERVISION
Nov 2023 – now | Zurich, Switzerland
Leads a focus group of PhD students, supporting professional development and driving project progress. Supervised 15+ Bachelor's and Master's theses.

VISARGUE | FUNDED BY DFG | DEVELOPER
2013 – 2017 | Konstanz, Germany
The project developed text-mining pipelines and web-based visualizations for political discourse analysis.

INVITED TALKS AND PANEL DISCUSSIONS

COLLEGIUM HELVETICUM
Jan 2025 | Zurich, Switzerland
Panel and talk "Visual Analytics Approaches for Exploring LLMs"

IPAI EXPERIENCE DAY
Oct 2024 | Heilbronn, Germany
Talk „Investigating Biases in AI through Interactive Machine Learning"

DIGITALGIPFEL DER BUNDESREGIERUNG
Oct 2024 | Frankfurt am Main, Germany
Panel „KI im Tagesgeschäft? – Erfolgsrezepte aus Unternehmen, öffentlicher Verwaltung und Politik"

TED AI
Oct 2024 | Vienna, Austria
Co-organized the workshop "Discovering the Power of Human-AI Collaboration Firsthand"

AI + X SUMMIT
Oct 2024 | Zurich, Switzerland
Talk „Investigating Biases in AI through Interactive Machine Learning"

GOOGLE CLOUD PARTNER CONNECT
Sept 2024 | Zurich, Switzerland
Talk „Bias in Generative Language Models"

COLLECTIVE GATHERING AT THE STARTUP DAYS
May 2024 | Bern, Switzerland
Panel „Empathy in AI"

AWARDS

2026 Best Paper Award, CHI Conference on Human Factors in Computing Systems
2025 Südwestmetall-Förderpreis for an Outstanding Dissertation
2021 Outstanding Paper Award, Int. Conf. on Computational Semantics
2021 Best Paper Award, Journal of Comparative Policy Analysis
2017 Honorable Mention Paper Award, VAST Conference

SKILLS

PROGRAMMING
Python • Java • JavaScript • TypeScript • HTML • CSS • D3.js • SQL

FRAMEWORKS/PLATFORMS
TensorFlow • PyTorch • Scikit-learn • React • Node.js • Git • Docker

LANGUAGES
Latvian (native) • English (proficient) • German (proficient) • Russian (fluent) • Chinese (basic)

PUBLICATIONS

50+ (co-)authored peer-reviewed publications at top-tier venues such as IEEE VIS, EuroVis, CHI, ACL, COLING.

SELECTED PUBLICATIONS

FIRST-AUTHORED

• **Rita Sevastjanova**, Robin Gerling, Thilo Spinner, and Mennatallah El-Assady. 'LayerFlow: Layer-wise Exploration of LLM Embeddings using Uncertainty-aware Interlinked Projections.' In Computer Graphics Forum, 44: e70123, (2025).

• **Rita Sevastjanova**, Eren Cakmak, Shauli Ravfogel, Ryan Cotterell, and Mennatallah El-Assady. 'Visual Comparison of Language Model Adaptation.' IEEE Trans. on Visualization and Computer Graphics, 29(1): 1178--1188, (2022).

• Aikaterini-Lida Kalouli*, **Rita Sevastjanova***, Christin Beck, and Maribel Romero. 'Negation, Coordination, and Quantifiers in Contextualized Language Models.' In Proc. of the 29th Int. Conf. on Computational Linguistics (COLING), pp. 3074--3085, (2022). * Equal Contribution.

• **Rita Sevastjanova**, Aikaterini-Lida Kalouli, Christin Beck, Hanna Schäfer, and Mennatallah El- Assady. 'Explaining Contextualization in Language Models using Visual Analytics.' In: Proc. of the 59th Annual Meeting of the Association for Computational Linguistics (ACL) and the 11th Int. Joint Conf. on Natural Language Processing (2021), pp. 464–476.

CLOSELY-SUPERVISED

• T. Stähle, P. F. Gyarmati, T. Spinner, **R. Sevastjanova**, D. Moritz, and M. El-Assady. 'VACP: Visual Analytics Context Protocol.' arXiv preprint arXiv:2603.29322, (2026), Currently Under Review.

• Robin Shing Moon Chan, **Rita Sevastjanova**, and Mennatallah El-Assady. 'PleaSQLarify: Visual Pragmatic Repair for Natural Language Database Querying.' In Proc. of the 2026 CHI Conf. on Human Factors in Computing Systems (CHI), Article No.: 1163, pp. 1--18, (2026). DOI: 10.1145/3772318.3791265. ⋆ Received Best Paper Award.

• Thilo Spinner, **Rita Sevastjanova**, Rebecca Kehlbeck, Tobias Stähle, Daniel A. Keim, Oliver Deussen, Andreas Spitz, and Mennatallah El-Assady. 'Revealing the Unwritten: Visual Investigation of Beam Search Trees to Address Language Model Prompting Challenges.' In Proc. of the 63rd Annual Meeting of the Association for Computational Linguistics (ACL), System Demonstrations, pages 295–306, (2025).

• Kenza Amara, **Rita Sevastjanova**, and Mennatallah El-Assady. 'SyntaxShap: Syntax-aware Explainability Method for Text Generation.' In Findings of the Association for Computational Linguistics (ACL) 2024, pages 4551–4566, (2024).