

# Maksim Shmalts

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- NLP / LLM engineer • 5 years theoretical background plus practical expertise in NLP
- 3 years professional experience in the area • Fast learner with advanced analytical skills

## Work Experience

- 2023- **Working Student for LLMs**, IAV GmbH
- 2024
- Implemented and integrated a tool for evaluation of LLMs and RAG pipelines (Python, LangChain, Ragas, OpenAI)
  - Connected OpenAI tool calling to our internal on-premise models (Python, TGI, LangChain)
- 2021- **Data Scientist / NLP Engineer**, MKSKOM
- 2023
- Implemented backend for a custom Llama-2-based Retrieval-Augmented Generation Engine for a large customer (Python, LangChain, Llama.cpp, HF Transformers)
  - Increased the number of responses from potential customers on a freelance platform by 5 times by independently designing and implementing an LLM-based tool for automatic search and contacting potential customers (Python, LangChain, OpenAI, Puzzle [internal tool])
  - Implemented tools for Natural Language Processing, Time Series Prediction, Optimization Modeling, Data Analysis (Python, PyTorch, spaCy, scikit-learn, statsmodels, Pandas, NumPy, streamlit)
  - Participated in hackathons for RL and Anomaly Prediction (Python, scikit-learn, statsmodels)
  - Communicated with potential customers
- 2022- **Tutor HiWi**, Eberhards Karls Universität Tübingen
- 2023
- Held tutorials and contributed into evaluating assignments and projects for the courses "String Algorithms" (WiSe22/23), "Python for Beginners" (WiSe22/23), "Statistical Language Processing II" (SoSe23), "Reinforcement Learning for LLMs" (SoSe24)
  - Created Finite-States Transducers for measuring distance between German dialects for the course "String Algorithms" (Python, pynini)
- 2021- **Assessor**, Yandex
- 2022
- Evaluated search engine results on IT-themed queries, evaluated machine translations
- 2021- **Course Instructor (Linguistics for Olympiades)**, Lomonosov Moscow State University Gymnasium
- 2022
- Held lectures, prepared and evaluated assignments for the Course "Linguistics for Olympiads"

## Education

- 2022- **Eberhard Karls Universität Tübingen**, Bachelor (in progress): Computational Linguistics
- 2024
- 2024 Bachelor thesis on applying LLMs to German compounds (Python, LangChain, PyTorch, HF transformers)
  - 2024 Group project on investigating influence of RL fine-tuning data on biasing LLMs (Python, HF transformers)
  - 2023 Participated at the SemEval 2023 and published a paper at the ACL Anthology (Python, HF transformers)
- 2019- **Lomonosov Moscow State University**, Bachelor (incomplete): Theoretical and Applied Linguistics
- 2022
- 2022 Personal project DERBI: a tool for automatic inflection of German words (Python)
  - 2022 Conference diploma for DERBI at Lomonosov-2022 (Moscow), Science Sessions-2022 (Kaliningrad), XXII International Conference of Young Slavists (Tallinn)
  - 2021 Term paper on predicting ablaut class of German strong verbs (Python, PyTorch)
- 2017- **Lomonosov Moscow State University Gymnasium**, High School: History and Philology
- 2019
- 2019 Prize-winner of All-Russian Olympiad for Linguistics (gives no-exam admission to the university of choice)
  - 2019 Graduation with a Gold Medal

## Publications

- 2023 **John Boy Walton at SemEval-2023 Task 5: An Ensemble Approach to Spoiler Classification and Retrieval for Clickbait Spoiling**, ACL Anthology, Toronto
- The paper summarizes my approach to the SemEval-2023 Task 5 that uses an ensemble of encoder and seq-to-seq Transformer-based LMs.
- 2022 **Derbi: Deutscher regelbasierter Inflektor**, Studia Slavica XX, Tallinn (issued 2024) & **DERBI: DEutscher RegelBasierter Inflektor**, Faktor14, Tübingen
- The papers give a brief overview on DERBI, my model for automatic inflection in German.

## Facts

Natural languages	Russian (native), English (C1), German (B2), Spanish (A2)
Programming languages	Python, R, C#, Java
Tech stack	LangChain, HF Transformers, spaCy, PyTorch, scikit-learn, Pandas, NumPy; Docker, GitLab (CI/CD), Unix tools
Misc achievements	Prize winner for various national and international music competitions, driving license categories A and B, startup founder (now closed)
Interests	Music, sports (in particular, kickboxing, table tennis, volleyball), history, philosophy, traveling