

Rufat Asadli

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EDUCATION

- **ETH Zurich [5.25/6.00]** 2023-Present
MSc in Statistics
- **Charles University [1.00/1.14]** 2019-2022
BSc in Economics and Finance
 - Recipient of **Merit Stipend for Outstanding Academic Achievements** for 2 years awarded to **top 10%** students across all institutes.

EXPERIENCE

- **NetFabric.ai** Mar'25 - Present
Graduate Student Researcher, Supervised by Prof. Dr. Laurent Vanbever and Dr. Benjamin Bichsel Zurich, Switzerland
 - Developing an advanced fine-tuning benchmark of state-of-the-art LLMs on network configuration data through ablation studies.
- **Rycolab, ETH Zurich** Apr'24 - Present
Graduate Student Researcher, Supervised by Prof. Dr. Ryan Cotterell and Dr. Alex Warstadt Zurich, Switzerland
 - Developed a **text-only model** to study via grid search sweep how speaker-listener communication is shaped by **speech constraints** and how different bottleneck levels influence language acquisition.
 - Conducted Bayesian hyperparameter sweep for GPT-2 speaker model, identifying optimal PPO-based training configuration to **maximize coherence and grammaticality** of model text summarization.
- **Kapital Bank OJSC** Oct'22 - Present
Leading Data Scientist Baku, Azerbaijan
 - Developed a **prediction pipeline of daily loan sales** with synthetic feature-engineering using GRU networks and constrained optimization of ensemble learning predictions.
 - Built a **high-frequency prediction model** with CatBoost using advanced feature engineering (cyclical transforms, lags) and optimized predictions via MCMC simulation of error distribution.

PROJECTS

- **Communicative Success as a Learning Signal for Interactive Language Models [Code ** Apr'24-Feb'25
Accepted to NAACL'25 CMCL Workshop
 - Developed an **interactive language model training** method inspired by child acquisition, showing communication-based rewards signal grammaticality and constraints shape speaker behavior.
- **Does Catastrophic Forgetting Happen in Tiny Subspaces? [Code ] [Report ** Fall'24
For Deep Learning, ETH Zürich
 - Explored **neural network subspace structure in continual learning** through ablation studies that task-specific learning/forgetting primarily occurs in subspaces with small eigenvalues.
- **TARMAC: Conversational AI Dispatcher** Jul'24 - Dec'24
Startup Project
 - Contributed to a **logistics dispatch system** using named-entity recognition and SQLChain on top of fine-tuned Llama 3 70B to convert user prompts into SQL queries for truck data retrieval.

SKILLS

- **Programming Languages:** Python, HTML, CSS
- **Packages and Softwares:** PyTorch, TensorFlow, Keras, Transformers, NLTK, LangChain, TRL, Selenium, NumPy, Git, Bash, SQL, Docker, L^AT_EX

AWARDS AND ACHIEVEMENTS

- Recipient of State Program scholarship to study Master's degree abroad (Azerbaijan) 2023
- [TensorFlow Developer Certificate](#) 2022