

Jakhongir Saydaliev

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EDUCATION

MSc. in Data Science EPFL - Avg. Grade: 5.54/6.0 - MSc thesis at UT Austin	Sep. 2023 - Aug. 2026 Lausanne, Switzerland
BSc. in Computer Engineering POLITECNICO DI TORINO - Avg. Grade: 109/110 - ToPoliTo scholarship (ranked 8th in the admission)	Sep. 2019 - Jul. 2023 Turin, Italy

RESEARCH EXPERIENCE

Visiting Researcher ITML, UT AUSTIN (PROF. HYEJI KIM) TOPIC: REASONING WITH DIFFUSION LANGUAGE MODELS	Mar. 2026 - Present Texas, USA
Research Student Assistant LINX, EPFL (PROF. MICHAEL GASTPAR) TOPIC: EFFICIENT REASONING FOR LLMs • Analyzed the reasoning traces of 7B-32B reasoning models with respect to metrics such as entropy and certainty. • Trained a single-layer transformer model to predict the early stopping position during inference. • Reduced the CoT lengths by 14%–55% on average across four datasets, with little-to-none accuracy drop.	June. 2025 - Feb. 2026 Lausanne, Switzerland Code
ML Summer Research Intern SWISSAI TOPIC: MULTIMODAL REASONING THROUGH MULTI-TURN RL • Extended the VeRL framework to support image-manipulation during multi-turn RL training. • Trained 3B VLMs with RL in the multi-turn settings on 4 NVIDIA H100 GPUs on our synthetic data using VeRL. • Designed a rotation-based reward function with a 20% performance improvement during training.	Jun. 2025 - Sep. 2025 Lausanne, Switzerland Blog , Code
Research Student Assistant NLP LAB, EPFL (PROF. ANTOINE BOSSELUT) TOPICS: MULTILINGUAL NLP & MULTIMODAL REASONING • Trained 7B large multimodal models (LMMs) for text-image interleaved generation on reasoning datasets, e.g. ResQ. • Trained 3B LMMs for image-to-text reasoning on 8 NVIDIA A100 GPUs for 15 days with 10 VQA datasets. • Implemented Multi-GPU training with distributed data parallel (DDP). • Trained a 287M linear language identification model with a dual objective for 2099 languages from scratch. • Improved the language identification of the low-resource languages by 3.2 F1.	Jun. 2024 - Jun. 2025 Lausanne, Switzerland Paper , Code
Research Student Assistant DHLAB, EPFL (PROF. FRÉDÉRIC KAPLAN) TOPIC: QA SYSTEM WITH LLM AGENTS • Fine-tuned 7B large language models (LLMs) for historical question-answering tasks. • Designed a text-to-SQL pipeline using CodeS-7B model for table-based question-answering task. • Built an LLM-based agentic system using Llama-3 70B and GPT-4 for table-based question-answering task.	Feb. 2024 - Sep. 2024 Lausanne, Switzerland Paper , Code

WORK EXPERIENCE

ML Research Intern LOGITECH TOPIC: COMPUTER USE OF LLM AGENTS • Created a scalable pipeline to collect GUI grounding dataset from videos. • Trained 4B-7B vision language models for GUI grounding task on our annotated dataset.	Sep. 2025 - Feb. 2026 Lausanne, Switzerland
Data Analyst FATER • Analyzed big data with 20-30M of rows to extract insights using python pandas and SQL. • Implemented data parallelization with python to parallelize the data execution across multiple CPUs. • Contributed to the development of customer churn prediction model.	Nov. 2022 - May. 2023 Pescara, Italy
IoT Engineer LINKS FOUNDATION, • Developed an interface to visualize the location of IoT devices using MQTT with python and Thingsboard.	Oct. 2021 - Feb. 2022 Turin, Italy

TEACHING EXPERIENCE

Teaching Student Assistant

Fall, 2024

APPLIED DATA ANALYSIS, EPFL

- Advised students on the design and the implementation of their projects.
- Most popular Information and Communication (IC) MSc course in Fall 2024, with 700+ students enrolled.

PUBLICATIONS

- [1] Alliot Nagle, **Jakhongir Saydaliev**, Dhia Garbaya, Ashok Vardhan Makkuva, Michael Gastpar, and Hyeji Kim. Terminator: Learning optimal exit points for early stopping in chain-of-thought reasoning. *Third Workshop on Test-Time Updates at ICLR*; Under review at ICML, 2026.
- [2] Negar Foroutan*, **Jakhongir Saydaliev***, Ye Eun Kim, and Antoine Bosselut. Conlid: Supervised contrastive learning for low-resource language identification. *European Chapter of the Association for Computational Linguistics (EACL)*, Won the shared task at WDMQS at COLM, 2026. <https://arxiv.org/abs/2506.15304>. (*Equal contribution).
- [3] Tristan Karch*, **Jakhongir Saydaliev***, Isabella Di Lenardo, and Frederic Kaplan. Llm agents for interactive exploration of historical cadastre data: framework and application to venice. *Computational Humanities Research*, 1:e11, 2026. <https://arxiv.org/abs/2505.17148>. (*Equal contribution).

OPEN-SOURCE CONTRIBUTIONS

Apertus

2026

LINKS: [PAPER](#), [HUGGING FACE](#)

I was a part of the Apertus team through my ConLID project for language identification.

CommonLID

2026

LINKS: [PAPER](#), [DATASET](#)

I have helped collect dataset for Uzbek language.

SELECTED PROJECTS

Mixed-modal Reasoning

2025

LINKS: [BLOG](#), [CODE](#), [TECHNICAL REPORT](#)

We explore three multimodal CoT paradigms: Multimodal-to-Multimodal, Text-to-Multimodal, and Multimodal-to-Text. We find that image generation during reasoning often harms performance, while Multimodal-to-Text with visual grounding improves the results when trained with GRPO (RL algorithm).

GalactiTA: AI-Driven Solutions for Scientific Question Answering

2024

LINKS: [BLOG](#), [TECHNICAL REPORT](#)

We first collected multiple-choice question-answering (MCQA) datasets from scientific fields, then fine-tuned the Galactica-1.3B model for the question-answering task, followed by DPO training. Next, we implemented RAG tuning, which integrates external knowledge and enhances performance by 11.52%.

A recipe for a successful tech-review channel

2023

LINKS: [WEBSITE](#), [CODE](#)

Causal Analysis of Tech channels' progress on YouTube using the videos published between May 2005 and October 2019. Through this analysis, we have identified several success factors of tech channels.

AWARDS AND SCHOLARSHIPS

- 2nd in a Hackathon on efficient LLM training, Switzerland, 2025
- 1st in Lauzhack Hackathon on satellite imagery with LLMs and Computer Vision, Switzerland, 2024
- KTH Scholarship, awarded to 2.7% of applicants, Sweden, 2023
- ToPoliTo Scholarship, ranked 8th in the university admission, Italy, 2019

RELEVANT COURSEWORK

Topics in NLP, Modern NLP, Machine Learning, Applied Data Analysis, Image Analysis and Pattern Recognition, Artificial Neural Networks and Reinforcement Learning, Visual Intelligence, Systems for Data Management and Data Science, Operating Systems, Object Oriented Programming, Algorithms and Programming, Computer Architecture.

TECHNICAL SKILLS

Deep Learning Frameworks: PyTorch, Transformers (HuggingFace), vLLM, SGLang, VeRL

Data Science: Pandas, NumPy, Matplotlib, Seaborn

HPC Schedulers: SLURM, RunAI