Anastasia Kuznetsova

Email: anakuzne-at-iu-dot-edu
Phone: (812) 558 8055
Website: ana-kuznetsova.github.io
LinkedIn: https://www.linkedin.com/in/anastasia-kuznetsova-2bb66b116/

Publications

Joural Papers

[J1] Pooneh Mousavi, Gallil Maimon, Adel Moumen, Darius Petermann, Jiatong Shi, Haibin Wu, Haici Yang, **Anastasia Kuznetsova**, Artem Ploujnikov, Ricard Marxer, Bhuvana Ramabhadran, Benjamin Elizalde, Loren Lugosch, Jinyu Li, Cem Subakan, Phil Woodland, Minje Kim, Hung-yi Lee, Shinji Watanabe, Yossi Adi, Mirco Ravanelli, "Discrete Audio Tokens: More Than a Survey!", Transactions on Machine Learning Research (TMLR) *(Accepted September 2025).*

Conference papers

[C7] **Anastasia Kuznetsova**, Inseon Jang, Wootaek Lim, Minje Kim, "Task-Specific Audio Coding for Machines: Machine-Learned Latent Features Are Codes for That Machine", In Proceedings of IEEE Workshop on Applications of Signal Processing to Audio and Acoustics (WASPAA), Tahoe City, California, 2025.

[C6] Jaesung Bae, **Anastasia Kuznetsova**, Dinesh Manocha, John Hershey, Trausti Kristjansson, and Minje Kim,"Generative Data Augmentation Challenge: Zero-Shot Speech Synthesis for Personalized Speech Enhancement,", in Proceedings of the IEEE International Conference on Acoustics, Speech, and Signal Processing Workshops (ICASSPW): Generative Data Augmentation for Real-World Signal Processing Applications (GenDA 2025), Hyderabad, India, Apr. 6-11, 2025.

[C5] **Anastasia Kuznetsova**, Aswin Sivaraman, Minje Kim, "The potential of Neural Speech Synthesis-based Data Augmentation for Personalized Speech Enhancement," Proc. 2023 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), 2023, 1 – 5.

[C4] **Anastasia Kuznetsova**, Anurag Kumar, Jennifer Drexler-Fox and Francis Tyers, "Curriculum Optimization for Low-resource Speech Recognition," Proc. 2022 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), 2022, 8187 – 8191.

[C3] Piyush Vyas, **Anastasia Kuznetsova** and Donald S. Williamson, "Optimally Encoding Inductive Biases into the Transformer Improves End-to-End Speech Translation," Proc. Interspeech, 2021, 2287 – 2291. *Winner of 2021 Interspeech Best Student Paper Award.*

[C2] **Anastasia Kuznetsova** and Francis Tyers, "A finite-state morphological analyser for Paraguayan Guaraní," Proc. of the First Workshop on Natural Language Processing for Indigenous Languages of the Americas, 2021, 81 – 89.

[C1] Anna Zueva, **Anastasia Kuznetsova** and Francis Tyers, "A finite-state morphological analyser for evenki," Proc. of The 12th Language Resources and Evaluation Conference (LREC), 2020, 2581 – 2589.

Education

Indiana University — **Bloomington, IN, USA**
Ph.D. in Computer Science and Computational Linguistics (Dual major)
Thesis: "Data efficiency and model complexity reduction for speech processing systems."
Committee:
Minje Kim (Chair, Siebel School of Computing and Data Science, UIUC)
Francis Tyers (Chair, Department of Linguistics, Indiana University)
David Crandall (Member, Department of Computer Science, Indiana University)
Damir Cavar (Member, Department of Linguistics, Indiana University) 2019–2025

NRU Higher School of Economics — **Moscow, Russia**
M.A. in Computational Linguistics
Advisor: F.Tyers 2017–2019

Russian State University for the Humanities — **Moscow, Russia**
B.A. in Social Anthropology 2013–2017

Employment

Rev.com — **Remote, Austin, TX, USA**
Applied Speech Scientist June 2025 – Present
– Deep biasing for Automatic Speech Recognition
– Speaker Diarization

Amazon.com Services LLC — **Cambridge, MA, USA**
Applied Scientist Intern May 2024 – August 2024
– Foundational models for multi-channel audio

Indiana University — **Bloomington, IN, USA**
Research Assistant August 2023 – Present
– Discretized Speech Representations for ASR model complexity reduction.
– Supervisor: Minje Kim

Google LLC — **Remote, IN, USA**
Student Researcher September 2023 – December 2023
– Supervised clustering for speaker diarization.

Google LLC — **New York, NY, USA**
Research Intern May 2023 – July 2023
– RL-based supervised clustering for speaker diarization.

Coqui.ai — **Remote, Willington, DE, USA**
Research Intern, Text-to-Speech (TTS) June 2022 – August 2022
– Extraction of speaker attributes from SSL representations.

Indiana University — **Bloomington, IN, USA**
Research Assistant August 2020 – May 2022
– SSL representation learning for mono-channel Speech Enhancement.
– Supervisor: Donald S. Williamson

Rev.com — **Remote, Austin, TX, USA**
Machine Learning Engineer Intern (STT) June 2021 – August 2021
– Curriculum Learning for ASR data complexity optimization.

Indiana University — **Bloomington, IN, USA**
Research Assistant August 2019 – May 2020
– Low-resource speech recognition.
– Supervisor: Francis Tyers

Teaching

NRU Higher School of Economics — **Moscow, Russia**
External Advisor — Fall 2024 – Spring 2025
- Advised Master's students on their final thesis on discrete speech tokenizers and low-resource ASR.

Indiana University — **Bloomington, IN, USA**
Assosiate Instructor — Spring 2023
- ENGR-E 511 Machine Learning for Signal Processing

Indiana University — **Bloomington, IN, USA**
Assosiate Instructor — Fall 2022, Fall 2023
- ENGR-E 533 Deep Learning Systems

National Autonomous University of Mexico — **Mexico City, Mexico**
Course instructor — November 2019
- Finite-State Transducers for morphological analysis

Awards

- *Luddy Outstanding Research Award* 2022–2022
  Nominated as a graduate student for outstanding research by the Dept. of Computer Science, Luddy school of Informatics, Computing and Engineering, Indiana University.
- *Interspeech 2021 Best Student Paper Award* 2021–2021

Miscellaneous activities

- Program Chair for *Shared Task: Mozilla Common Voice Spontaneous Speech ASR*, 2025
- The Potential of Neural Speech Synthesis-based Data Augmentation for Personalized Speech Enhancement, Poster presentation at Speech and Audio in the Northeast (SANE) workshop, October 26, 2023.

Skills

- **Expertise:** speech and audio models, speech coding.
- **Coding:** Python, PyTorch, Tensorflow
- **Natural Languages:** English, Russian, Portuguese, Spanish.w

Service

- **Reviewer:** ICASSP 2023, 2024, 2025, 2026, WASPAA 2025, Interspeech 2025
- **Mentor:** Google Summer of Code, Google Code-In 2018, 2019, 2020