Taras Sereda. ML Researcher & Engineer

Experienced **Machine Learning Researcher and Engineer** with 10+ years of expertise in generative modeling for audio, vision, and text. Proven track record in developing AI solutions, including ASR, TTS, and computer vision systems. Passionate about pushing the boundaries of human knowledge.

Contacts and useful links

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✍️ https://taras-sereda.github.io

🔗 linkedin.com/in/tarassereda

👾 github.com/taras-sereda

Publications

- Pheme: Efficient and Conversational Speech Generation
  Budzianowski Paweł, Sereda Taras, Cichy Tomasz, and Vulić Ivan

- Transcribe, Align and Segment: Creating speech datasets for low-resource languages
  Sereda Taras

Professional Experience

ML Consultant

Self-employed *(Sep 2022 - present)*

- Developed a real-time ASR system for low SNR environments (-10 to 0 dB), outperforming open-source SOTA models on domain-specific data

- Collaborated with PolyAI to create a zero-shot TTS system for call center automation, achieving faster-than-real-time performance on A100 GPUs

Visiting Scholar

Ukrainian Catholic University *(Mar 2022 - present)*

- Deliver lectures on speech and audio processing, focusing on TTS, ASR, and source separation(SS)

- Mentor and advise students on academic challenges in ML and audio processing

- Developed course material: github.com/taras-sereda/deep-learning-for-audio

Co-founder, Director of Research

Vocalics.ai *Kyiv, Ukraine — (Feb 2019 - Sep 2022)*

- Led R&D for a novel multi-lingual speech synthesis system preserving speaker identity and style
- Managed a team of 4 researchers, driving innovation in SOTA speech synthesis technologies
- Implemented and customized multiple SOTA papers in speech synthesis, including autoregressive and parallel TTS approaches
- Developed methodology for quality evaluation of generated speech in dimensions of intelligibility, speaker and prosody similarity
- Conducted customer interviews and market research to validate product-market fit

ML Engineer

Whisper.ai *San Francisco, CA, USA — (Feb 2018 - Jul 2018)*

- Developed advanced audio source separation models (PIT, Chimera network) deployed on ARM devices
- Improved listening experience for those with mild hearing loss in noisy environments

ML Researcher

Ring Labs *Kyiv, Ukraine — (Sep 2016 - Apr 2017)*

- Established and led the ML department as the first employee in the Ukrainian R&D office
- Developed object detection algorithms based on R-CNN and YOLO with customized in-house implementations

ML Engineer (Part time)

IPGraphy *Kyiv, Ukraine — (Oct 2015 - Jun 2016)*

- Developed core algorithm for visual object similarity search applied to trademark images
- Created an IP rights NN-based tool to enhance attorney productivity

ML Engineer

DepositPhotos *Kyiv, Ukraine — (Dec 2014 - Dec 2015)*

Developed core algorithms for a virtual stylist app, including:

- Recommender system for clothing combination suggestions
- Neural networks for automatic clothes classification and wardrobe categorization

Skills

- Python
- Rust
- Java
- Databases and SQL
- CUDA programming
- Pytorch
- Tensorflow
- Algorithm and data structures
- Performance tuning
- Project Management
- Problem solving

Languages

Ukrainian 🇺🇦

Native speaker

English 🇺🇸

Proficient speaker

Talks

- **"VocalicsAI. Artificial intelligence removes language barriers"** Talk at FW days, 2021
- **"Waveglow. Generative modeling for audio synthesis"** Talk at FW days, 2019

Education

Masters's Degree in Mathematical Modelling

2011 - 2012

KNEU - Kyiv, Ukraine

Bachelor's Degree in Cybernetics

2007 - 2011

KNEU - Kyiv, Ukraine