

Anton Okhotnikov

Machine Learning Teamlead | <http://antonokhotnikov.github.io> | Barcelona / London

Proactive Machine Learning engineer with advanced leadership skills and 6+ years in speech processing. I have extensive research and management experience in production R&D. Delivered SotA Speaker Recognition to customers and research community.

EDUCATION

UNIVERSITY OF SOUTHAMPTON

MSC DATA SCIENCE

2017-2018 | Southampton, UK
Distinction

ITMO UNIVERSITY

BSC CONTROL SYSTEMS

2013-2017 | Saint Petersburg, Russia
GPA: 4.74 / 5.00

CONTACT

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LinkedIn: [link](#)
Scholar: [link](#)

SKILLS

STACK

General:

Linux • Git • Docker • GCP

Programming:

Python • Bash • C++

Machine Learning:

TensorFlow • PyTorch • Torchaudio •

ClearML • Numpy • Pandas • Sklearn

Rest:

Kaldi • Flask • PostgreSQL • NoSQL •
RabbitMQ

COMPETENCES

Speech processing • Deep
Learning • TPU • NN optimization •
R&D • GenAI • Leadership • Agile

LANGUAGES

English • Russian • Spanish

TRAININGS

GENERATIVE SUMMIT

2023 | Yandex, Belgrade

MACHINE LEARNING SUMMER

SCHOOL

2019 | Skoltech, Moscow

WORK EXPERIENCE

ID R&D INC. | MACHINE LEARNING TEAMLEAD

August 2021 – December 2024 | Barcelona, Spain

SPEAKER RECOGNITION AND VOICE ANTI-SPOOFING FOR IoT DEVICES

Delivered State-of-the-Art Speaker Recognition solution for IoT devices with accuracy, ROM, RAM and latency constraints to top-tier smartphones and chips manufacturers for CPU/GPU/NPU inference:

- Trained on Google Cloud TPUs with TensorFlow custom size-optimized multilingual ResNet models for Speaker Recognition and Voice Anti-spoofing subnetworks (for physical and logical attacks detection)
- Models quality adaptation for low-SNR noise conditions and architecture optimizations according to hardware requirements

SPEECH DEEPFAKES DETECTION

Pioneered and led development of a product in R&D team of 7 ML engineers:

- Built a technology that detects 50+ voice cloning engines with EER < 3%
- MLOps tools integration and data storage design
- SCRUM ceremonies; human resources management (grew 2 ex-colleagues who pursue PhD in EU now)

SCIENTIFIC ACTIVITIES

- Multiple significant worldwide challenges team wins including VoxSRC-2023 and SASV-2022
- Open-sourced VoxTube dataset and ReDimNet model, published 4 papers, bet public Speaker Recognition benchmarks (ReDimNet, 2024)

ID R&D INC. | MACHINE LEARNING ENGINEER

November 2019 – August 2021 | Saint Petersburg, Russia

SPEAKER IDENTIFICATION AND SPEAKER DIARIZATION FOR CALL-CENTERS

- Designed and built a cloud-based asynchronous scalable framework for huge datasets (30Tb+) collection and processing in GCP
- Pioneered Speaker Identification capabilities into product; retrained and improved Diarization model (-20% DER)

SPBU | ASSOCIATE LECTURER

October 2019 – June 2023 | Remote | Part-time

- Tailored and led 2 MSc courses - Machine Learning and Data Mining
- Led 7 MSc students graduation projects in Deep Learning field (NLP, CV, Audio)

MTS AI | MACHINE LEARNING DEVELOPER

October 2018 – November 2019 | Saint Petersburg, Russia

AUTOMATIC SPEECH RECOGNITION (ASR) FOR VOICE ASSISTANT

- Trained ASR acoustic models with Kaldi and ESPnet. Reduced WER x2
- Pioneered multi-speaker detector and voice activity detection models
- Built MVP of Voice Anti-spoofing module (replay attacks)

CENTER OF UNDERGROUND NAVIGATION | JUNIOR ENGINEER

August 2016 – August 2017 | Saint Petersburg, Russia

Mathematical modeling for oil pipeline mapping task:

- Calibrated measurement instrument - a solid-state wave gyroscope
- Simulated the movement of a projectile through a pipeline and implemented Kalman filtering with maximum error of 2m

OPEN-SOURCE

REDIMNET
Reshape Dimensions Network for
Speaker Recognition

VoxTUBE
Multilingual speaker recognition
dataset

ACHIEVEMENTS AND AWARDS

2024	2/10	ASVSpooF5 challenge
2023	1/28	VoxCeleb Speaker Recognition Challenge (VoxSRC-23)
2022	1/23	Spoofing-Aware Speaker Verification Challenge (SASV-2022)
2022	1/39	VoxCeleb Speaker Recognition Challenge (VoxSRC-22)
2021	1/40	Short-duration Speaker Verification Challenge (SdSV-2021)
2020	4/53	VoxCeleb Speaker Recognition Challenge (VoxSRC-20)
2017		Global Education Scholarship Award Winner

SELECTED PUBLICATIONS

RESHAPE DIMENSIONS NETWORK FOR SPEAKER RECOGNITION

I. Yakovlev, R. Makarov, A. Balykin, P. Malov, A. Okhotnikov, N. Torgashov
Interspeech 2024 | Kos, Greece

VOXTUBE: A MULTILINGUAL SPEAKER RECOGNITION DATASET

I. Yakovlev, A. Okhotnikov, N. Torgashov, R. Makarov, Y. Voevodin, K. Simonchik
Interspeech 2023 | Dublin, Ireland

A SUBNETWORK APPROACH FOR SPOOFING AWARE SPEAKER VERIFICATION

A. Alenin, N. Torgashov, A. Okhotnikov, R. Makarov, I. Yakovlev
Interspeech 2022 | Seoul, South Korea

LRPD: LARGE REPLAY PARALLEL DATASET

I. Yakovlev, M. Melnikov, N. Bukhal, R. Makarov, A. Alenin, N. Torgashov, A. Okhotnikov
IEEE ICASSP 2022 | Singapore, Singapore