

# Anton Okhotnikov

Senior AI Researcher | <http://antonokhotnikov.github.io> | Barcelona / London

Proactive Deep Learning engineer with 6+ years in speech processing. I have advanced leadership skills and extensive experience in production R&D. Delivered SotA Speaker Recognition and won multiple worldwide competitions VoxSRC

## 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 DEEPAKES 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, set 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

- 2nd/10** ASVSpooF5 challenge 2024
- 1st/28** VoxCeleb Speaker Recognition Challenge 2023
- 1st/23** Spoofing-Aware Speaker Verification Challenge 2022
- 1st/39** VoxCeleb Speaker Recognition Challenge 2022
- 1st/40** Short-duration Speaker Verification Challenge 2021
- 4th/53** VoxCeleb Speaker Recognition Challenge 2020
- Global Education Scholarship Award Winner 2017

## 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