

Abduragim Shtanchaev



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EDUCATION

Mohamed bin Zayed University of Artificial Intelligence

Ph.D. Probabilistic ML Prof. Martin Takáč & Prof. Eric Moulines

Skoltech

M.Sc. in Information Systems and Technology, GPA: 3.95/4.00

University of Turkish Aeronautical Association

B.Sc. in Mechatronics Engineering, GPA: 3.35/4.00

Abu-Dhabi, UAE

Aug. 2023 - Jun. 2027

Moscow, RU

Sept. 2018 - Jul. 2020

Ankara, TR

Sept. 2013 - Jul. 2018

WORK EXPERIENCE

OpenCV.org - Computer Vision Engineer

Remote

Stack: C/C++, Python, Pytorch, CUDA/cuDNN, OpenCL, CMake, ONNX Mar. 2022 - Mar. 2025

- **OpenCV Library Development and Maintenance** : Enhanced OpenCV DNN module by implementing **unsupported graph engine functionality** and **layers** in **C++**. Contributed to supporting dynamism in the graph engine, enabling support for **LLMs** and networks with **dynamic inputs**. Maintained and **optimized** the library for **robust performance and reliability**.
- **Efficient Object Detection Model Porting**: Developed and deployed a **high-performance object detection model** (> 30 fps) optimized for **object tracking**. Designed **parallelized NN layers** and a **full detection pipeline** in **C**, utilizing **quantization** to deploy the model on a resource-constrained chip with only **1.5MB RAM**.
- **Memory-Efficient Raw Bayer Image Representation**: Converted **sRGB image datasets** to **synthetic raw Bayer representations** to enhance **memory efficiency**. Trained and validated detection models on **raw Bayer images**, achieving a **2x memory efficiency boost** on **low-power chips** by **eliminating traditional ISP preprocessing**.

O.Vision - Applied Computer Vision Researcher

Saint Petersburg, RU

Stack: C++, Python, Pytorch, TensorRT, CUDA

Jan. 2021 - Mar. 2022

- **Image Quality Assessment (IQA) for Face Recognition**: Designed an **image quality assessment model** tailored for **face recognition**, achieving up to a **2% improvement in Acc@ZeroFP** at a 20% rejection rate. Enabled **reliable device usage** in **challenging environments** for face recognition.
- **Face Recognition Validation Protocols**: Developed **validation protocols** for **face recognition** systems, incorporating **IQA model rejections**. Ensured **comprehensive evaluation of IQA and RUE model performance**.
- **Noise-Robust Face Detection**: Built **fast, noise-robust, multi-domain face detection models**. Optimized **deployment on edge devices** through **int8 quantization** and integrated the model into **production systems** using **TensorRT** and **C++**.
- **Model Deployment and Maintenance**: Converted all developed models to **TensorRT** to accelerate inference on **NVIDIA Jetson Nano**. Created libraries using **TensorRT** and **Pytorch** frameworks for streamlined deployment via **pip**, simplifying workflows for production engineers.

NeurodataLab LLC - Research Data Scientist

Moscow, RU

Stack: Python, Pytorch, Sklearn, TVM

Apr. 2020 - Sept. 2020

- **Ad Recall Prediction Models**: Developed models to predict ad recall using facial emotion analysis, ad media coverage, and ad metadata. Designed and implemented a data preprocessing pipeline for ad recall prediction from scratch. Co-authored a [research paper](#) on ad recall prediction.

PUBLICATIONS & ARTICLES

2026	CVPR	Guess and Guide Zero-Shot Diffusion Guidance <i>und. review</i> Abduragim Shtanchaev, Albina Ilina, Yazid Janati, Badr Maufad, Martin Takáč, Eric Moulines
2026	ICLR	Y-shaped Generative Flows <i>und. review</i> Arip Asadulaev, Semyon Semenov*, Abduragim Shtanchaev* , Eric Moulines, Fakhri Karray, Martin Takac
2026	ICLR	Curriculum-Augmented GFlowNets For mRNA Sequence Generation <i>und. review</i> Aya Laajil, Abduragim Shtanchaev , Sajan Muhammad, Eric Moulines, Salem Lahlou
2025	CVPR	All Languages Matter: Evaluating LMMs on Culturally Diverse 100 Languages Ashmal Vayani, Dinura Dissanayake, ..., Abduragim Shtanchaev , ...
2024	BMVC	Extract More from Less Dmitry Demidov, Abduragim Shtanchaev , Mihail Mihaylov, Mohammad Almansoori
2023		Getting the Hang of OpenCV's Inner Workings with ChatGPT Abduragim Shtanchaev
2021		A Recipe to Train Object Detection Models Abduragim Shtanchaev
2020		Multimodal Ad Recall Prediction Based on Viewer's and Ad Features Mariya Malygina, Abduragim Shtanchaev , Marina Churikova, Olga Perepelkina
2020	IAC	Automated Remote Sensing Forest Inventory Using Satellite Imagery Abduragim Shtanchaev , Artur Bille, Olga Sutyryna, Sara Elelimy
2019		Camera Trajectory Estimation Abduragim Shtanchaev

TEACHING EXPERIENCE

2025	Fall	Probabilistic Graphical Models - with Prof. Le Song
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ACHIEVEMENTS

2025	MenaML winter school by DeepMind - selected 1% applicants
2023	Full Ph.D. Scholarship Ph.D. at MBZUAI - Ranked 10th globally in AI
2020	Competed SMILES , selected 10% applicants. Certificate Graduated with High Honors from Skoltech
2018	Prestigious Full M.Sc. Scholarship at Skoltech, selected from 3k+ (<1 %) Graduated with Honors from UTAA
2013	Full Scholarship for B.Sc. at UTAA

TOOLS

Strong	Python ◦ Pytorch ◦ C/C++ ◦ OpenCV ◦ Vim ♥
Moderate	CUDA/cuDNN ◦ SQL ◦ Docker ◦ TensorRT ◦ CMake ◦ ONNX
Familiar	TensorFlow ◦ Keras ◦ mxnet ◦ HTML ◦ Jekyll ◦ Flask ◦ TVM ◦ JAVA ◦ OpenCL

SKILLS & INTEREST

Strong	Computer Vision ◦ Bayesian Inference ◦ Gen Modeling ◦ Math & Statistics
Moderate	◦ GNNs ◦ NLP ◦ RL ◦ Generative Flow Nets ◦ Optimal Transport