

Abduragim Shtanchaev

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EDUCATION

Mohamed bin Zayed University of Artificial Intelligence	Abu-Dhabi, UAE
<i>Ph.D. Probabilistic ML Prof. Martin Takáč & Prof. Eric Moulines</i>	<i>Aug. 2023 - Jun. 2027</i>
Skoltech	Moscow, RU
<i>M.Sc. in Information Systems and Technology, GPA: 3.95/4.00</i>	<i>Sept. 2018 - Jul. 2020</i>
University of Turkish Aeronautical Association	Ankara, TR
<i>B.Sc. in Mechatronics Engineering, GPA: 3.35/4.00</i>	<i>Sept. 2013 - Jul. 2018</i>

WORK EXPERIENCE

OpenCV.org - Computer Vision Engineer	Remote
<i>Stack: C/C++, Python, Pytorch, CUDA/cuDNN, OpenCL, CMake, ONNX</i>	<i>Mar. 2022 - Mar. 2025</i>

- **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
<i>Stack: C++, Python, Pytorch, TensorRT, CUDA</i>	<i>Jan. 2021 - Mar. 2022</i>

- **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
<i>Stack: Python, Pytorch, Sklearn, TVM</i>	<i>Apr. 2020 - Sept. 2020</i>

- **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 Sutyrina, Sara Elelimy
2019	Camera Trajectory Estimation Abduragim Shtanchaev

TEACHING EXPERIENCE

2025 Fall	Probabilistic Graphical Models - with <i>Prof. Le Song</i>
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ACHIEVEMENTS

2025	MenaML winter school by DeepMind - selected 1% applicants
2023	Full Ph.D. Scholarship Ph.D. at MBZUAI - Ranked 10'th 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 ◦ L ^A T _E X ◦ Vim ❤
Moderate	CUDA/cuDNN ◦ SQL ◦ Docker ◦ TensorRT ◦ CMake ◦ ONNX
Familiar	TensorFlow ◦ Keras ◦ mxnet ◦ HTML ◦ Jekyll ◦ Flask ◦ TVM ◦ JAVA ◦ OpenCL

SKILLS & INTEREST

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

