

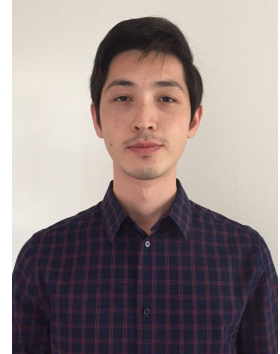
Alisher Abdulkhaev

Curriculum Vitae

Tokyo, Japan
☎ +81 (70) 3983 0144
✉ alisher.abdulkhaev@gmail.com
🌐 <https://alisher-ai.github.io>

Personal Data

Citizenship **Kyrgyzstan.**
Date of Birth **09.Feb.1992.**
Address **Yabecho, 321, 6-1203, Totsuka-ku, Yokohama | 224-0002.**
🌐 www.github.com/alisher-ai.
in www.linkedin.com/in/alisher-ai.
🐦 [@alisher_ai](https://twitter.com/alisher_ai).



Summary

As an AI engineer with 8 years of professional experience. Passionate about making machine learning accessible and advancing in the field of multi-modal foundation models. Core competencies include critical thinking, strategic planning, teamwork, project management, and problem-solving.

Skills

Soft skills Teamwork, leadership, mentoring, creative problem-solving, attention to details.
Software Python, Docker, ROS2, Linux (CLI), MongoDB, APIs, MATLAB, C++, \LaTeX .
ML/DL Generative AI, LLMs, object detection, segmentation, metric learning, facial recognition, self-supervised learning, local feature descriptors, generative modeling, time-series forecasting.
Frameworks PyTorch, TensorFlow/Keras, OpenCV, Open3D, scikit-learn, Caffe.
Languages **English:** advanced, **Japanese:** pre-intermediate (kanji; N3/N2 level), **Uzbek:** native speaker, **Turkish:** native speaker, **Kyrgyz:** native speaker.

Experiences

2022- **ROMS (Robotics OMni Solutions)**, Tokyo.

Head of AI Vision. Leading the team of 10 people, working on the robotic piece-picking system development. According to the business priorities, we plan, develop, implement, deploy, and maintain the AI-powered robotics algorithms. Interviewing the candidates.

- Implementation of vision algorithms, train AI models to identify, pick, and place the items,
- Design and develop an AI memory that helps the system learn from previous actions,
- Improved picking success from 75% to 97% & decreased the cycle time from 20secs to 6.5secs

Head of Data Science. As the head of Data Science, had built a team, made strategic plans, and developed the data analytics algorithms for retail solutions.

- Developed and deployed a sales forecasting (time-series) model to production,
- Inventory optimization in retail warehouses,

- 2021 **Analog Tech**, Tokyo.
AI consultant (part-time)
- Consult on AI model training and deploying on edge devices,
 - Convert AI models and run demos on [Hailo](#) and Jetson Nano edge devices.
- 2019–2022 **Browzzin**, Singapore.
Computer Vision Engineer
- Initiate and lead machine learning projects,
 - Evaluate and improve the developed machine learning models to match the business requirements,
 - Develop predictive analytics of foot traffic in retail,
 - Trained and deployed object detection and visual similarity search models for fashion images,
 - Developed a subspace method based on re-ranking similar products using multiple images of each product,
 - Train an attribute detection model to identify 571 different fashion image attributes such as color, pattern, material, style, etc.,
 - Fashion image generation and cloth swapping between models using image generation models (GAN and non-adversarial image synthesis models).
- 2017–2019 **PKSHA Technology**, TOKYO, Japan.
Machine Learning Engineer
- Read the recently published papers and present within a team,
 - Develop lightweight models for facial recognition,
 - Developed face detection model was picked by a client (Toyota),
 - Research and develop person tracking algorithms supported with person re-identification.
- 2016–2017 **RIT: Rakuten Institute of Technology (R&D)**, TOKYO, Japan.
Computer Vision Researcher.
- Large Scale Content Based Image Retrieval (CBIR);
 - implemented CBIR in both matconvnet and pycaffe,
 - trained deep CNN model and implemented custom Caffe layer; both forward and backward propagation,
 - extracting features from a higher convolutional layer by rotating the feature map (rather than rotating the input image) to avoid redundant computation.
 - Deep Fashion: matching the most similar fashion images.
- 2015–2016 **Artificial Visual Cortex**, ANKARA, Turkey.
TUBITAK (The Scientific and Technological Research Council of Turkey) Project
- Artificial Visual Cortex, Project Assistantship;
 - The holistic vision system development that simultaneously performs multiple visual tasks such as target detection, scene recognition, segmentation, moving object detection, target tracking, depth map estimation, and optical flow,
 - Studied local feature descriptors. A new binary local feature descriptor is developed that can additionally capture the color information,
 - Deep neural network quantization on network-in-network model with no loss in accuracy.
 - Supervision; supervised 4 bachelor's and 2 master's students.

Education

2020– **Doctor of Philosophy (Ph.D.)** .

- **Graduate School of System and Information Eng.**, *The University of Tsukuba, Japan*
- **Supervisor:** Prof. Kazuhiro Fukui
- **GPA:** 4.00/4.00
- **Research topic:** Developing robust and efficient models for video action recognition. We utilize 3D CNNs in conjunction with temporal embedding to preserve temporal features across video frames.

2012–2015 **Master of Science.**

- **Electrical & Electronics Engineering**, *Gaziantep University, Turkey*
- **Supervisor:** Assoc. Prof. Sema Koç Kayhan
- **GPA:** 3.64/4.00
- **Thesis:** *A new approach for video watermarking*
- **Thesis abstract:** One of the optimization methods, Genetic Algorithm, is employed for video watermarking to determine the optimal subset of parameter sets. The proposed study utilizes the LSB watermarking method and the GA optimization technique to select the most suitable bit planes within video frames. The selection process is carried out by evaluating two quality metrics: **1.** NCC value between the original and extracted watermark, and **2.** PSNR value of the watermarked video frames.

2008–2012 **Bachelor of Science.**

- **Electrical & Electronics Engineering**, *Gaziantep University, Turkey*
- **GPA:** 2.45/4.00
- Received Diploma Supplement that follows the model developed by the European Commission, Council of Europe and UNESCO/CEPES.

Awards and Certifications

- 2021 **Certificate:** NLP with Classification and Vector Spaces on Coursera (Grade: 98%)
- 2020 **Award:** *Received a gold medal (3rd place) in EdgeAI competition organized by The Japanese Ministry of Economy, Trade and Industry (METI) and NEDO | Tokyo, Japan*
- 2018 **Certificate:** Machine Learning by Stanford University on Coursera (Grade: 93.0%).
- 2015 **Award:** *TUBITAK Scholarship | Ankara, Turkey*
- 2008 **Award:** *The Most Successful Student in the High School | Osh, Kyrgyzstan*
- 2008 **Award:** *Received the 4th Place in Kyrgyzstan Computer Programming Olympiads and qualified for World Computer Olympiads | Bishkek, Kyrgyzstan*
- 2006 **Award:** *Received the 4th Place in Kyrgyzstan Computer Programming Olympiads | Bishkek, Kyrgyzstan*
- 2005 **Award:** *Received the 1st Place in Provincial Computer Programming Olympiads | Osh, Kyrgyzstan*
- 2003–2008 **Award:** *Full Tuition Scholarship, International High School. Olympiads | Osh, Kyrgyzstan*
- 2002 *Received the 1st Place in Provincial Chess Competition | Osh, Kyrgyzstan*

Volunteer experience

- **Machine Learning Tokyo:** is a community and an award-winning nonprofit organization dedicated to democratizing Machine Learning

- Board director: strategic planning.
- Community leader: manage and support community efforts and organize community hangouts.
- Talks and presentations:
 - "Squeeze-and-excitation Networks" @ MLT paper reading session.
 - "Convolutional Operations Workshop" @ Rakuten.
 - "Object Detection Workshop" @ Progate.
 - "Data visualization" @ ELSI, Tokyo Institute of Technology.
 - "Convolutional Operations" Workshop @ Deepcon.
- **Open Data Science Conference (ODSC):** Tutorial session on "Rethinking Object Detection".
- **Global AI Hub:** "Determination of Evaluation Metrics for Object Detection".
- **Connectome AI:** One-shot learning: metric learning with siamese networks.
- **Student support:** Organizing events and managing teams to help high-school students with education and gaining new skills.

Personal projects

2020 **PwA: Papers with Annotations**, MACHINE LEARNING TOKYO.

- This project is aiming to enhance published AI papers with illustrations, annotations, brief explanations of technical keywords, terms and previous studies which makes them easier to read and to get the main idea intuitively.

2011–2012 **Wireless pulse sensor**, GAZIANTEP, Turkey.
Graduation Project of B.Sc. Degree

Publications and Reports

- A New Approach For Video Watermarking Using Genetic Algorithm, EEMKON2015, A.Abdul Khaev, S.K.Kayhan (October, 2015) **Presented**
- Abdul Khaev A., Yilmaz, O. (2016). [U-CATCH: Using Color ATtribute of image patCHes in binary descriptors](#). **Arxiv**.
- Yilmaz, O., Abdul Khaev A. (2016). [Combining image and video cues for specular object detection](#), **Technical Report**
- Abdul Khaev A. (2022). Time Elastic Networks: Towards Robust and Data-efficient Video Action Recognition, **Doctoral Research**

Interests

- | | |
|---------------------------|--------------------------|
| - Books | - Neuroscience |
| - Child brain development | - Emotional intelligence |
| - Soccer | - Basketball |
| - Chess | - Ping Pong |