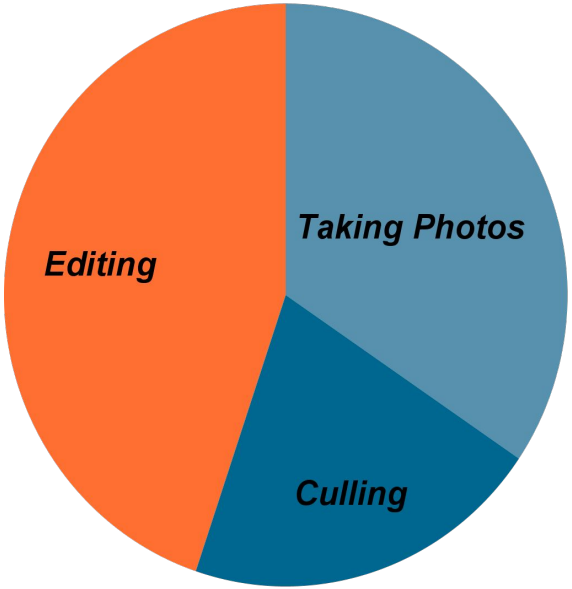
A-Shot

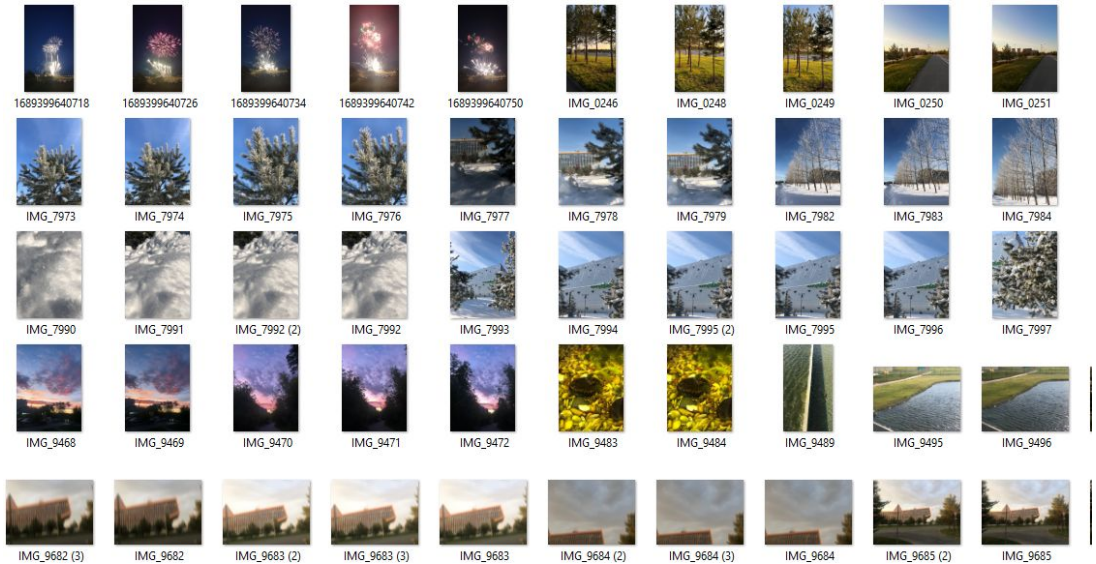
Innopolis University
2024

Problem

Photographers have a multiple responsibilities, from capturing the perfect moment to selecting the best shots and editing them.



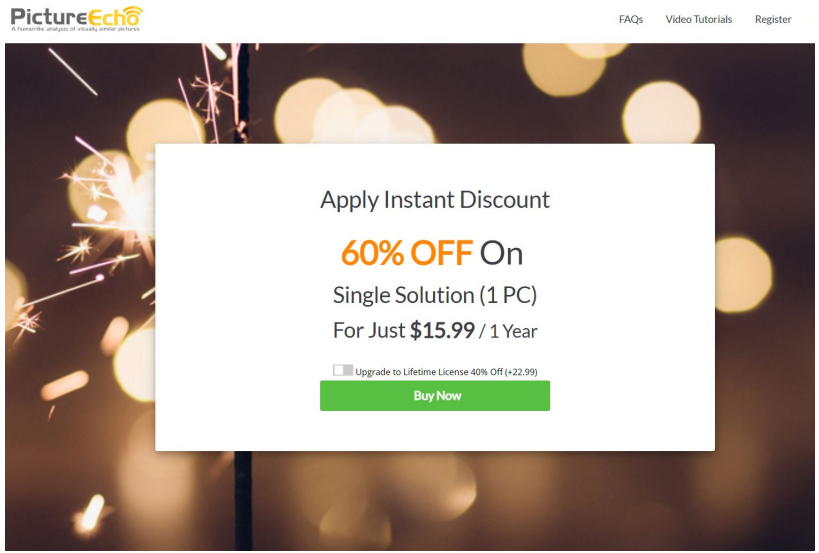
- Taking Photos
- Culling
- Editing



Selection of good pictures (culling) can be time-consuming task, as photographers may take thousands of shots in a day.

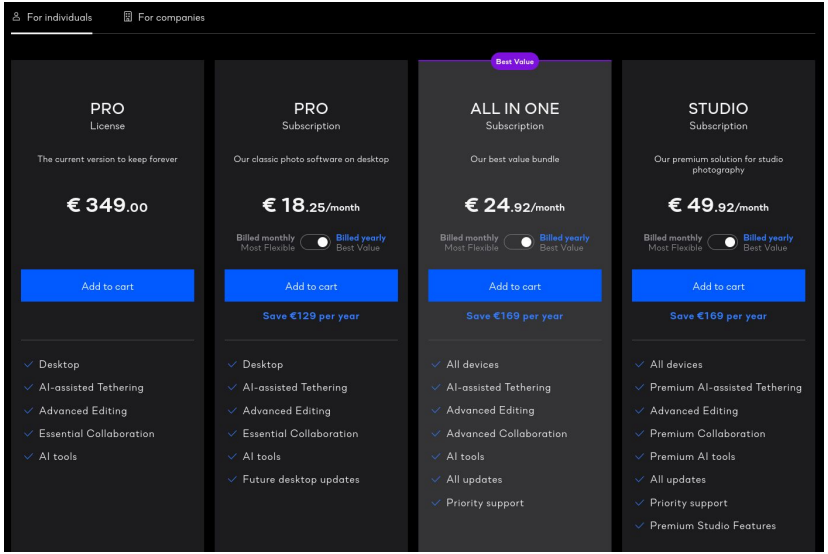
Existing solutions

PictureEcho



- ✗ free with optional subscriptions
- ✗ no blur detection
- ✗ partial multiplatform

Capture One



- ✗ only 30-days free trial
- ✗ no blur detection
- ✗ partial multiplatform

A-Shot

A-Shot is a free, local, and multiplatform desktop solution that speeds up culling. It helps detecting blurry photos, grouping duplicates and nearly identical images, without need of internet connection or subscription.

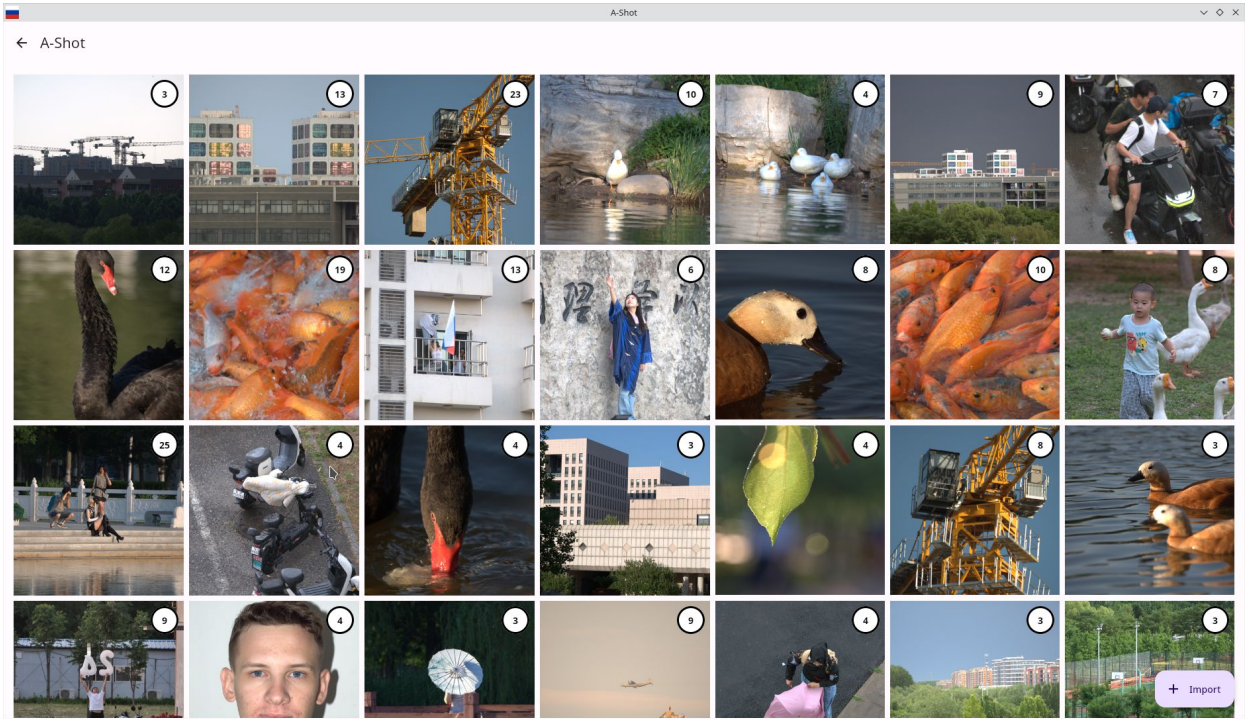
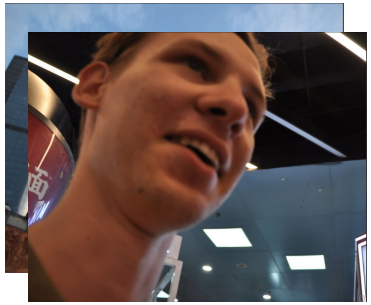
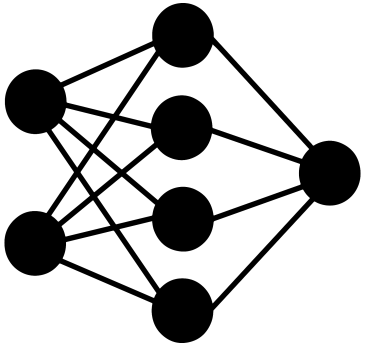


Image grouping flow

Picture selection

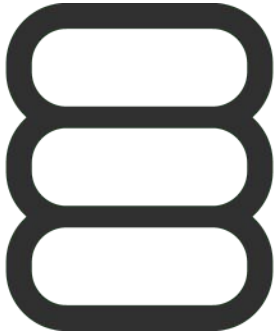


Neural Network
(SuperGlobal)



Pretrained Neural Network
based on ResNet
architecture for embeddings
extraction

Embedding
representation



Database insertion

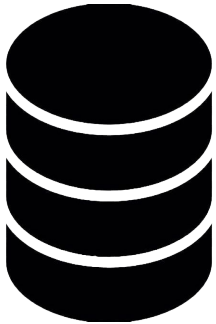


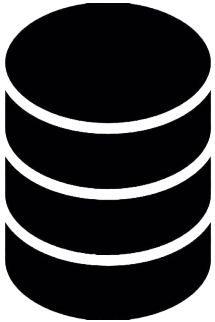
Image grouping flow

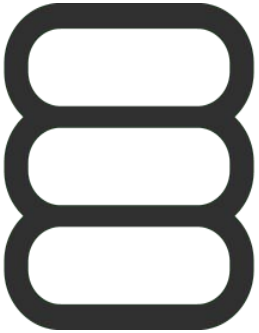
Database

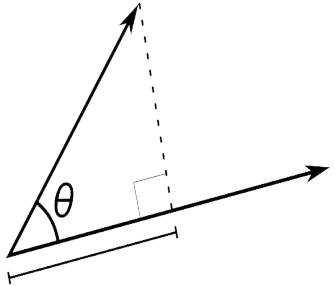
Collection of embeddings

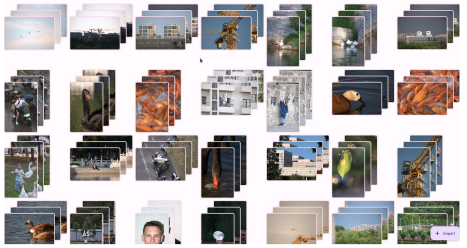
DBSCAN (cosine similarity)

Grouped images









DBSCAN is used to cluster images by received embeddings through cosine similarity

Blur detection

Input Image

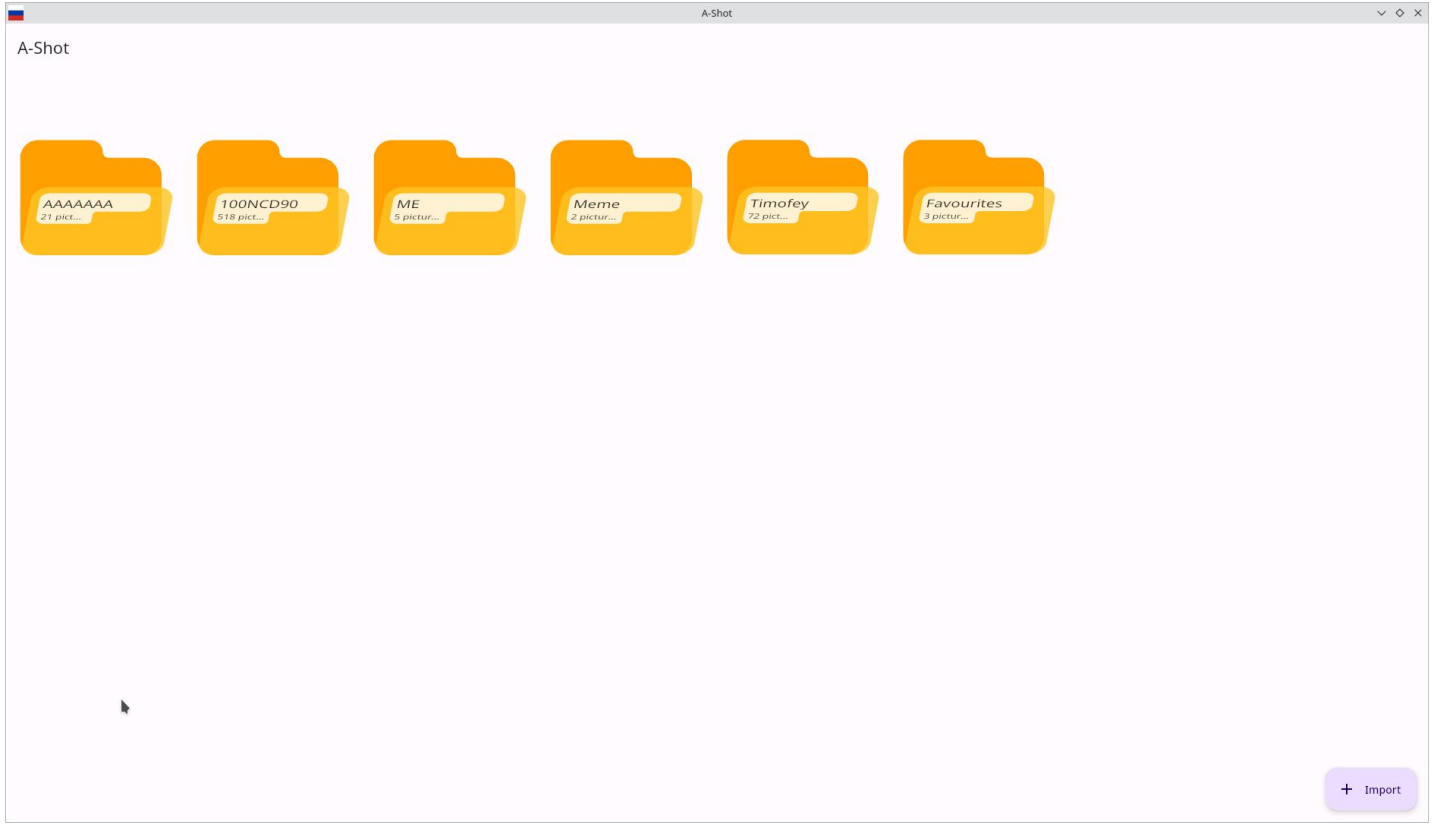
Photo processing using the Blur Detection Model

Blur map

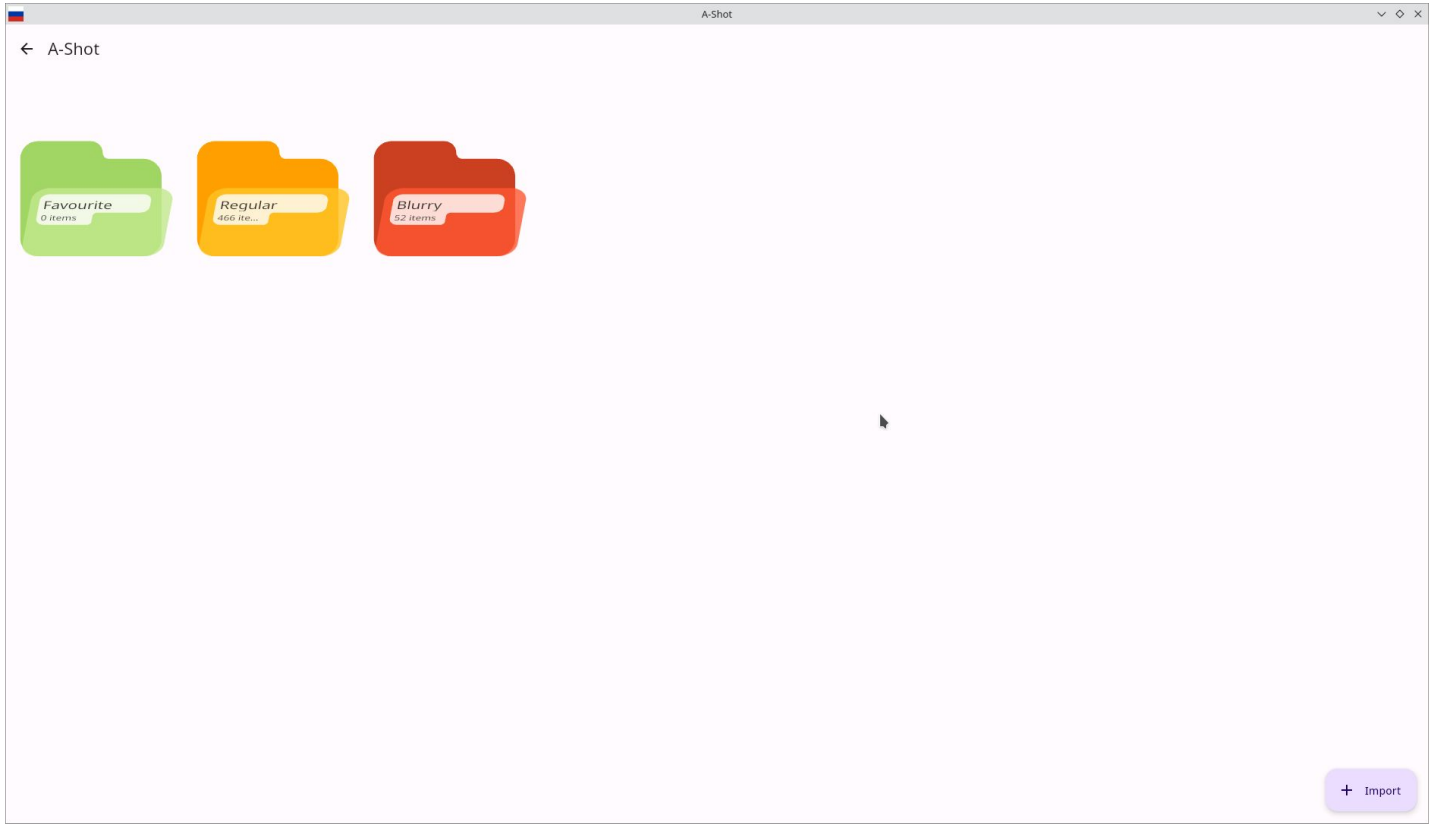
Pixel Value Averaging

Blur Decision

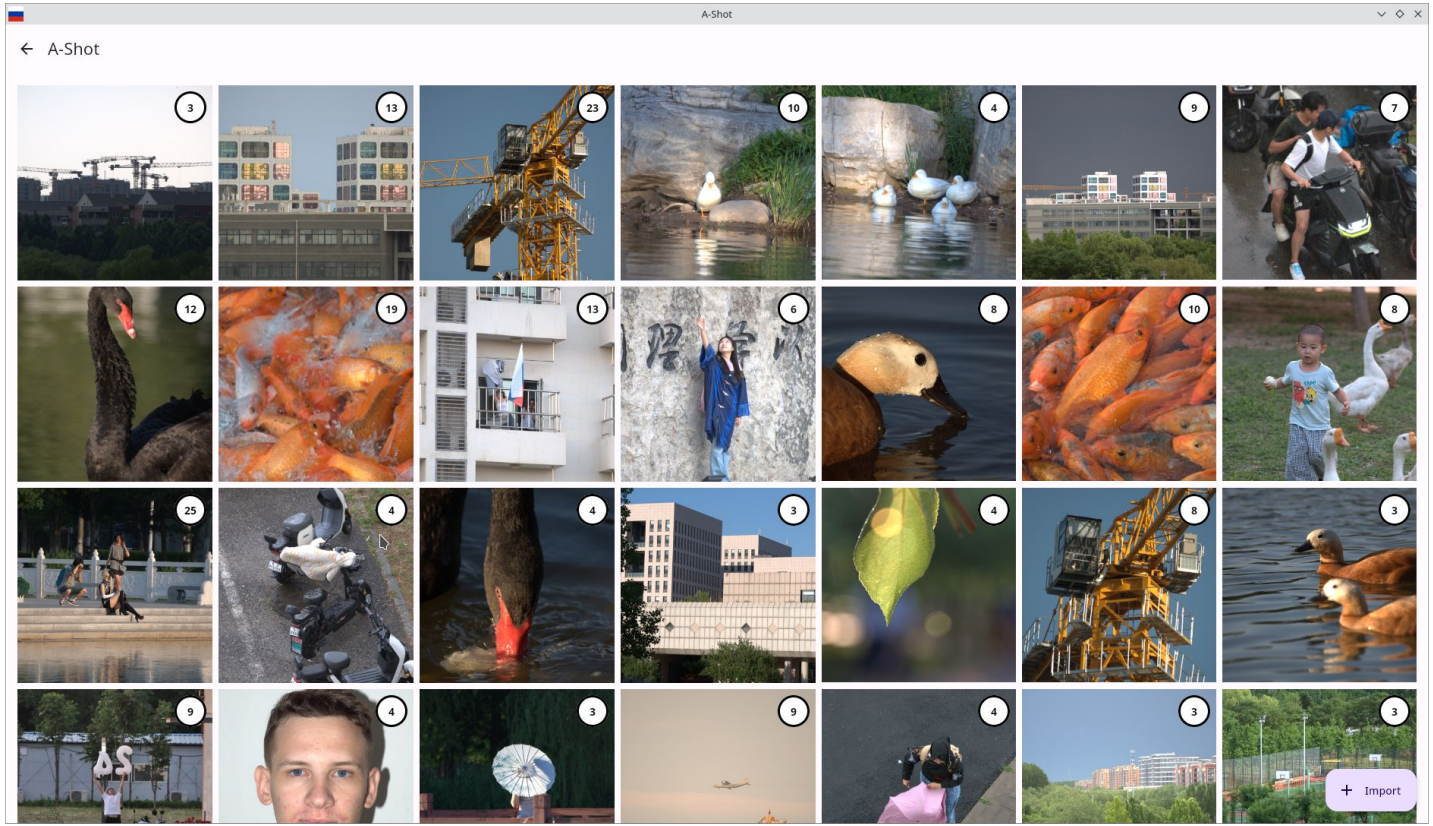
System UI


A-Shot
A-Shot
AAAAAAA
21 pict...
100NCD90
518 pict...
ME
5 pictur...
Meme
2 pictur...
Timofey
72 pict...
Favourites
3 pictur...
Import

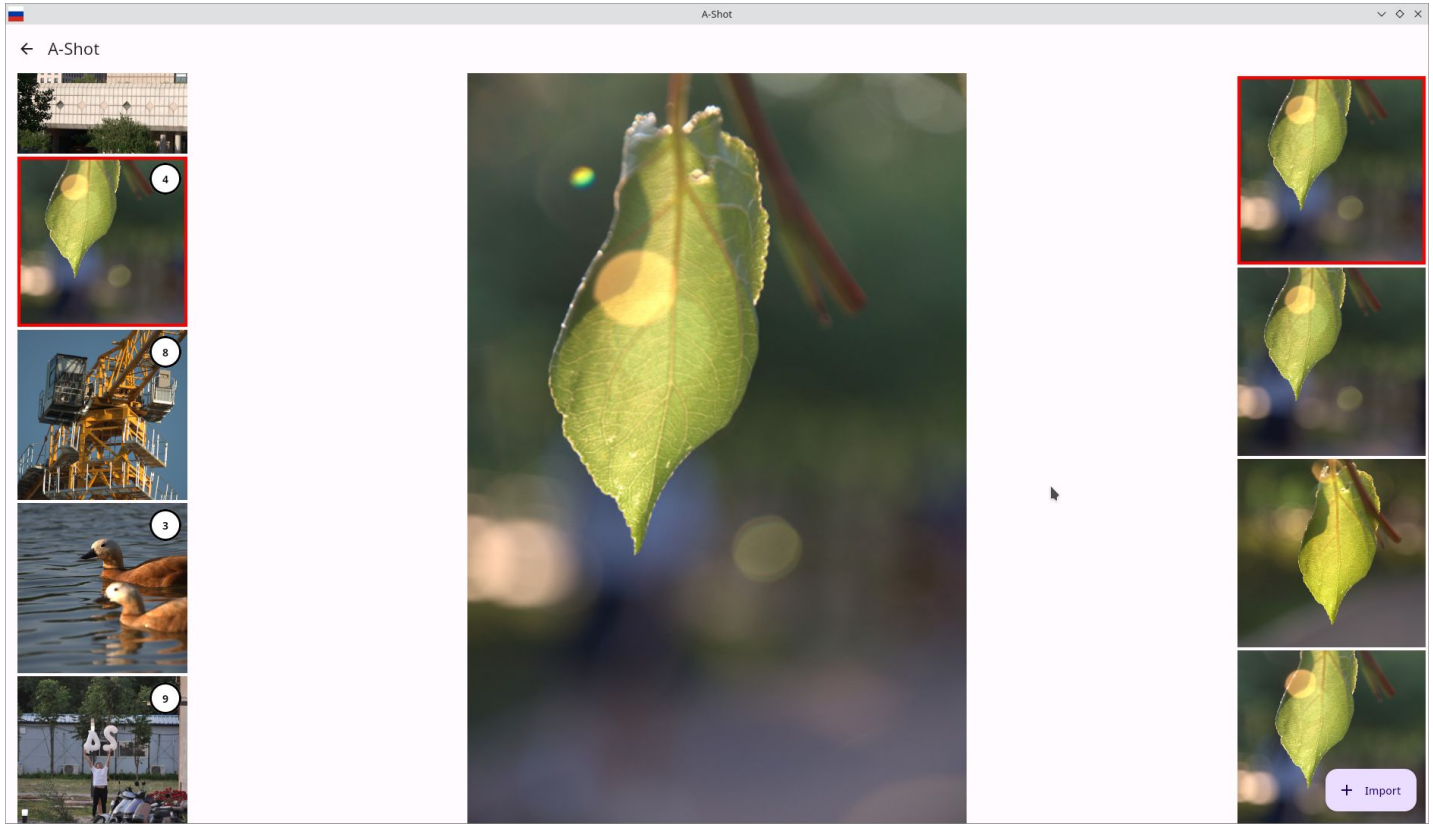
System UI


A-Shot
A-Shot
Favourite
0 items
Regular
466 ite...
Blurry
52 items
Import

System UI



System UI

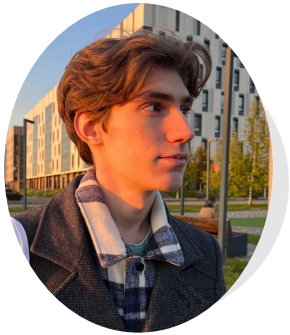


Solutions we applied (will be updated)

Our Team

Nikita

Full-stack developer



Matthew

Product Manager, UX/UI, Frontend dev.

Timofey

ML Developer

Egor

Frontend developer

Artur

ML developer

Artemii

Team Lead, ML, Full-stack developer, DevOps

Mikhail

ML developer, Toaster