

A-Shot

Innopolis University
2024

Which one is better?



Easy!
Right?

Which one is better?



**A bit
harder?**

Which one is better?





CULLING 1000 PICS

カッティング

IMPOSSIBRU!

ソングル

We cannot fully automate the process



Incorrect blur-detection of strong bokeh images



Criterion of a good photo might be controversial

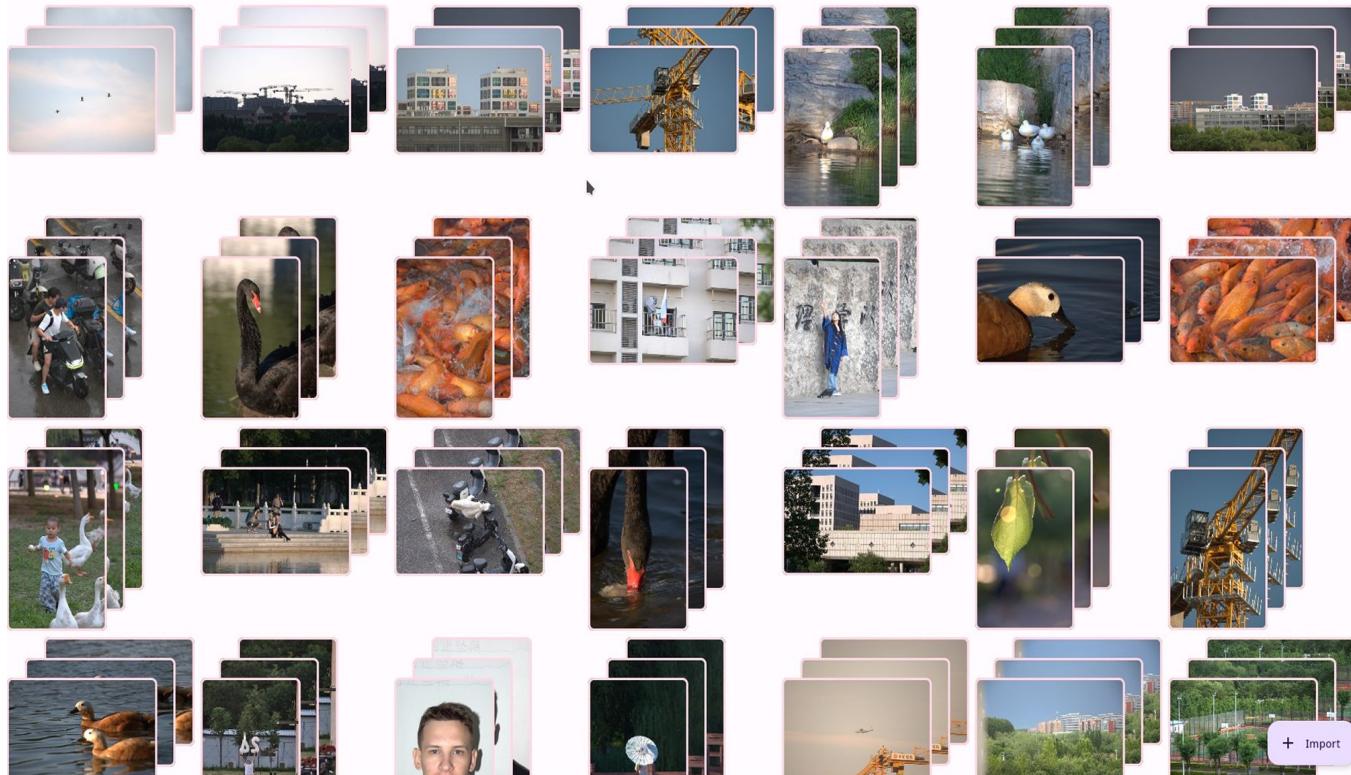
**How can we simplify
the process?**

How about auto-detection of poor-quality images?

Eliminating blurred and improperly exposed images can lessen the workload

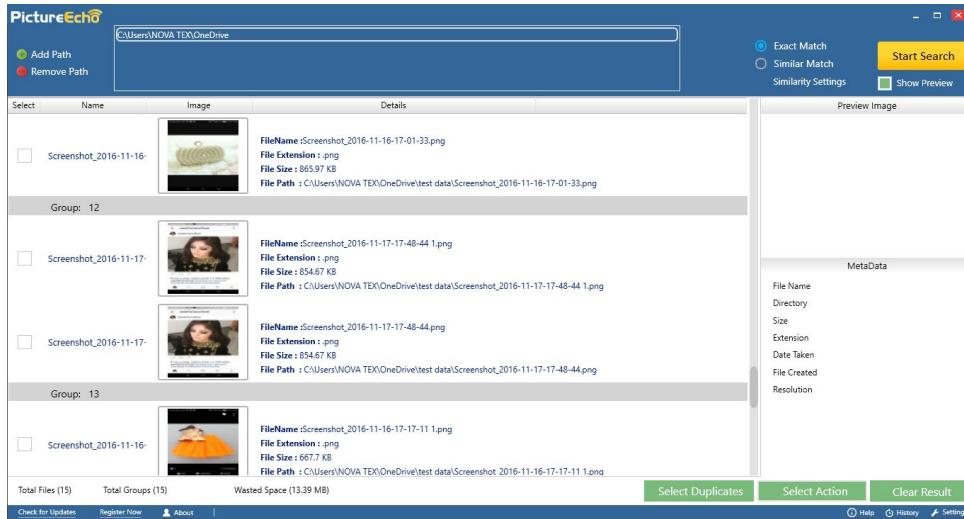


**Also, we can
auto-group
similar
images!**



Existing solutions

PictureEcho



Capture One

A screenshot of the Capture One pricing page. It features four main sections: 'PRO License' (€349.00), 'PRO Subscription' (€18.25/month), 'ALL IN ONE Subscription' (€24.92/month), and 'STUDIO Subscription' (€49.92/month). Each section includes a 'Billed monthly' and 'Billed yearly' option. Below each plan, there's a list of included features. For example, the PRO License includes Desktop, AI-assisted Tethering, Advanced Editing, Essential Collaboration, and AI tools. The ALL IN ONE Subscription includes All devices, Premium AI-assisted Tethering, Advanced Editing, Advanced Collaboration, AI tools, Future desktop updates, and Priority support.

- ✗ outdated design
- ✗ no blur detection
- ✗ partial multiplatform

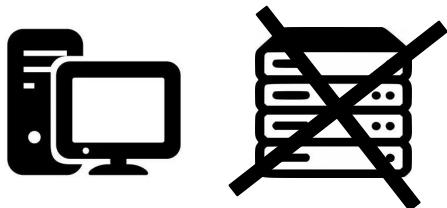
- ✗ only 30-days free trial
- ✗ no blur detection
- ✗ partial multiplatform

A-Shot

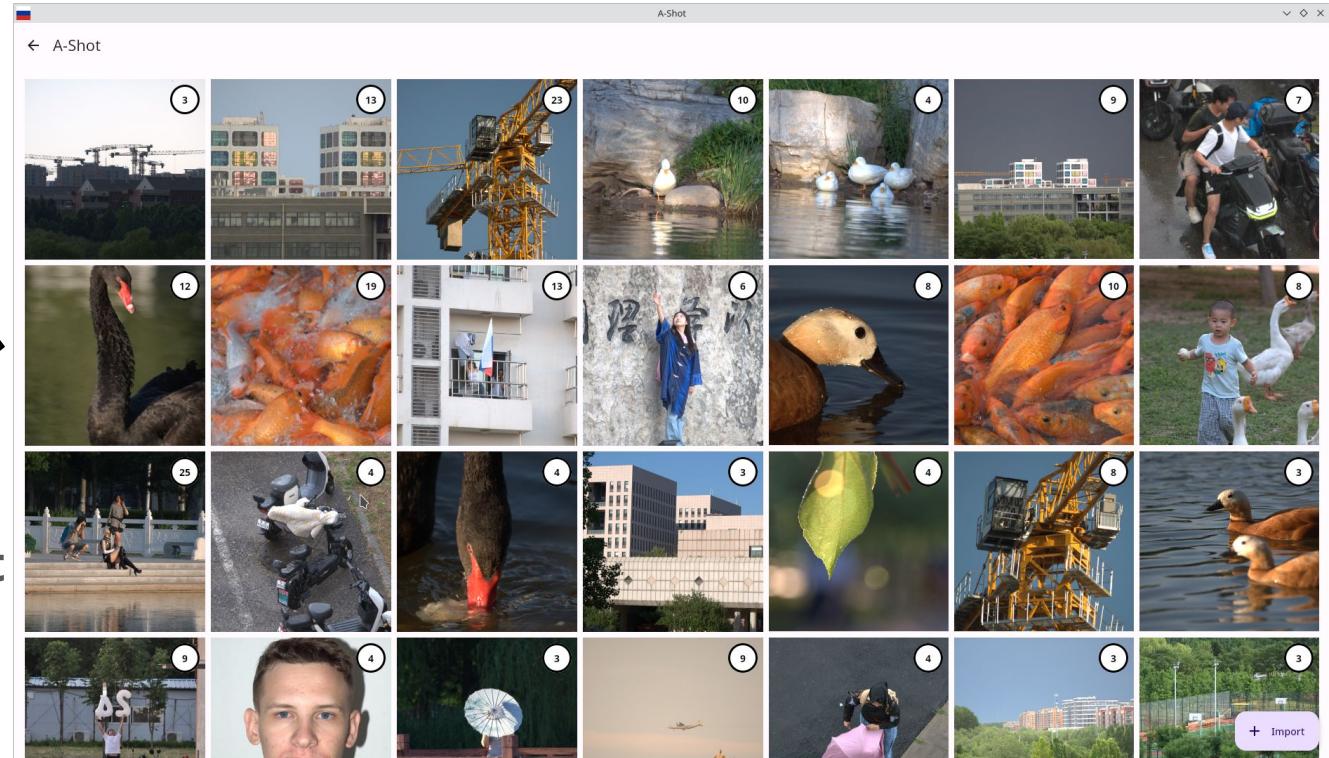
Multiplatform



Server-free



No need in internet



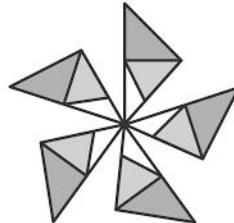
Tools we applied



Image Magick



PyTorch



ONNX
Runtime



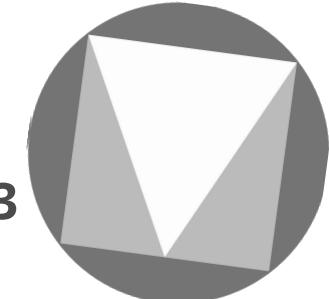
Material Design 3



Jetpack Compose



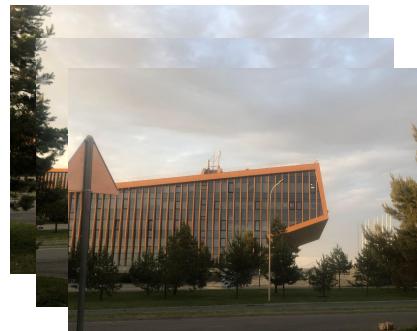
Kotlin



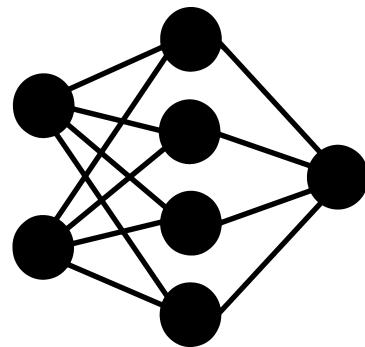
Application Architecture

Image grouping flow

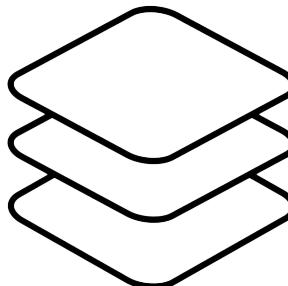
Picture selection



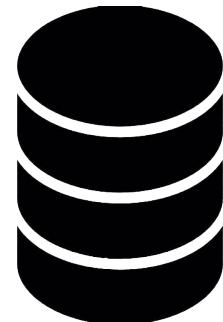
Neural Network
(SuperGlobal)



Embedding representation

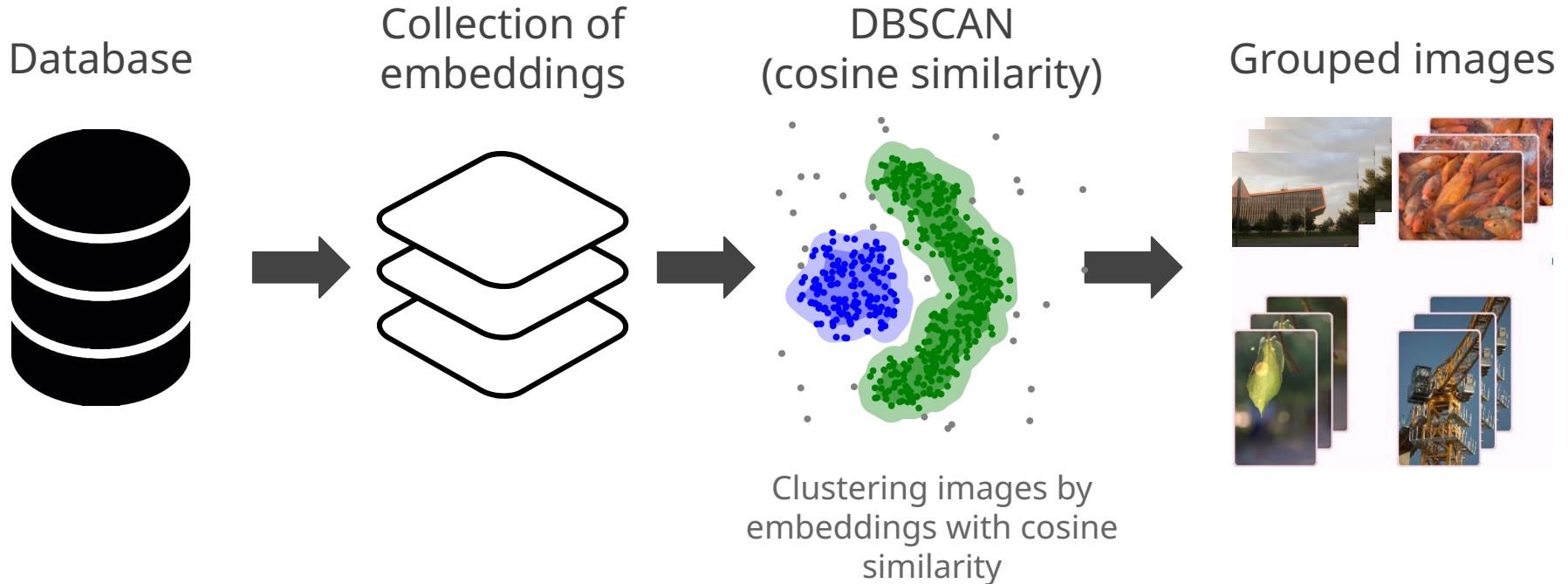


Database insertion



Pretrained Neural
Network based on
ResNet architecture

Image grouping flow



Blur detection

Input Image



Photo processing
with Blur Detection
Model



Blur map



Pixel Value
Averaging

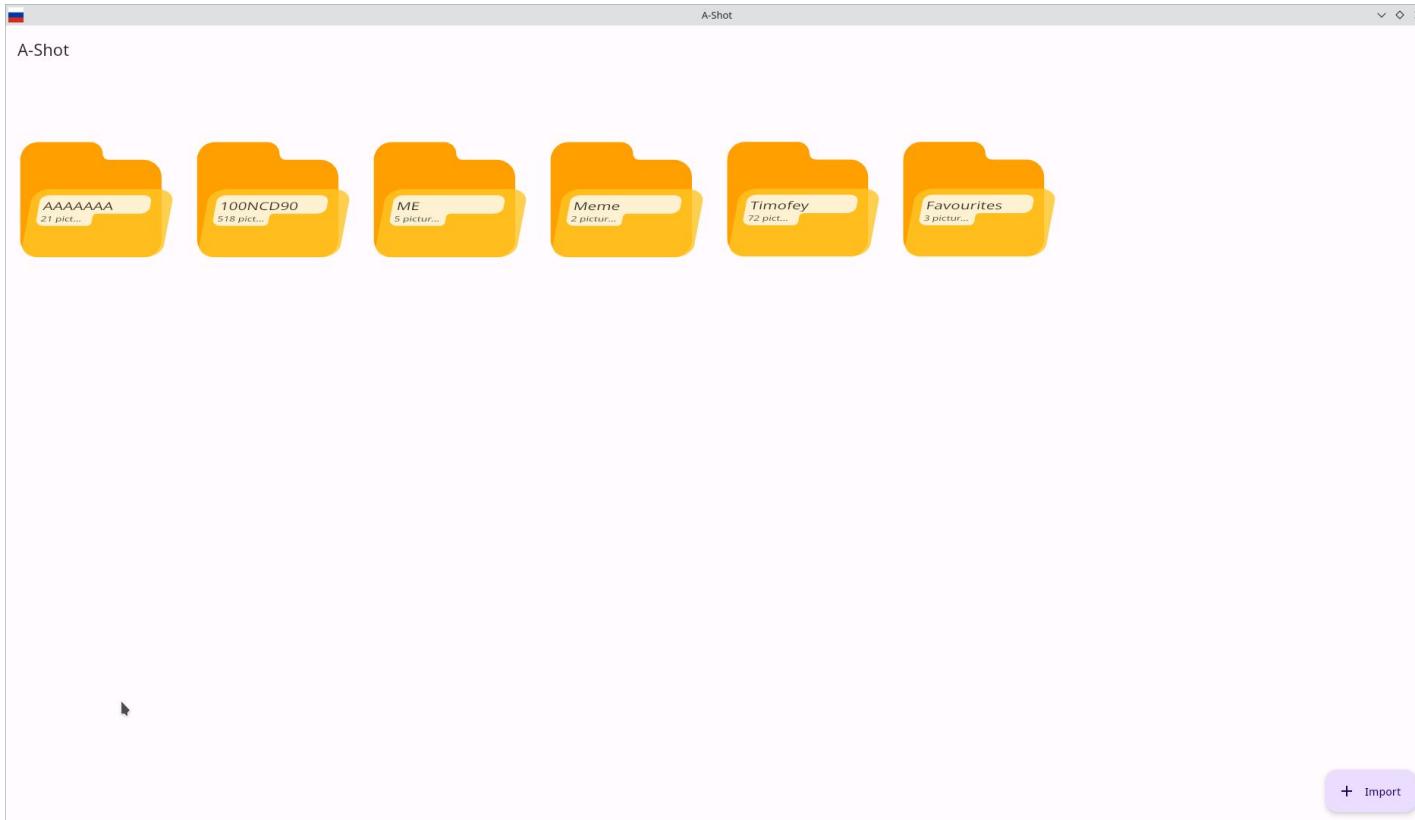


Blur Decision

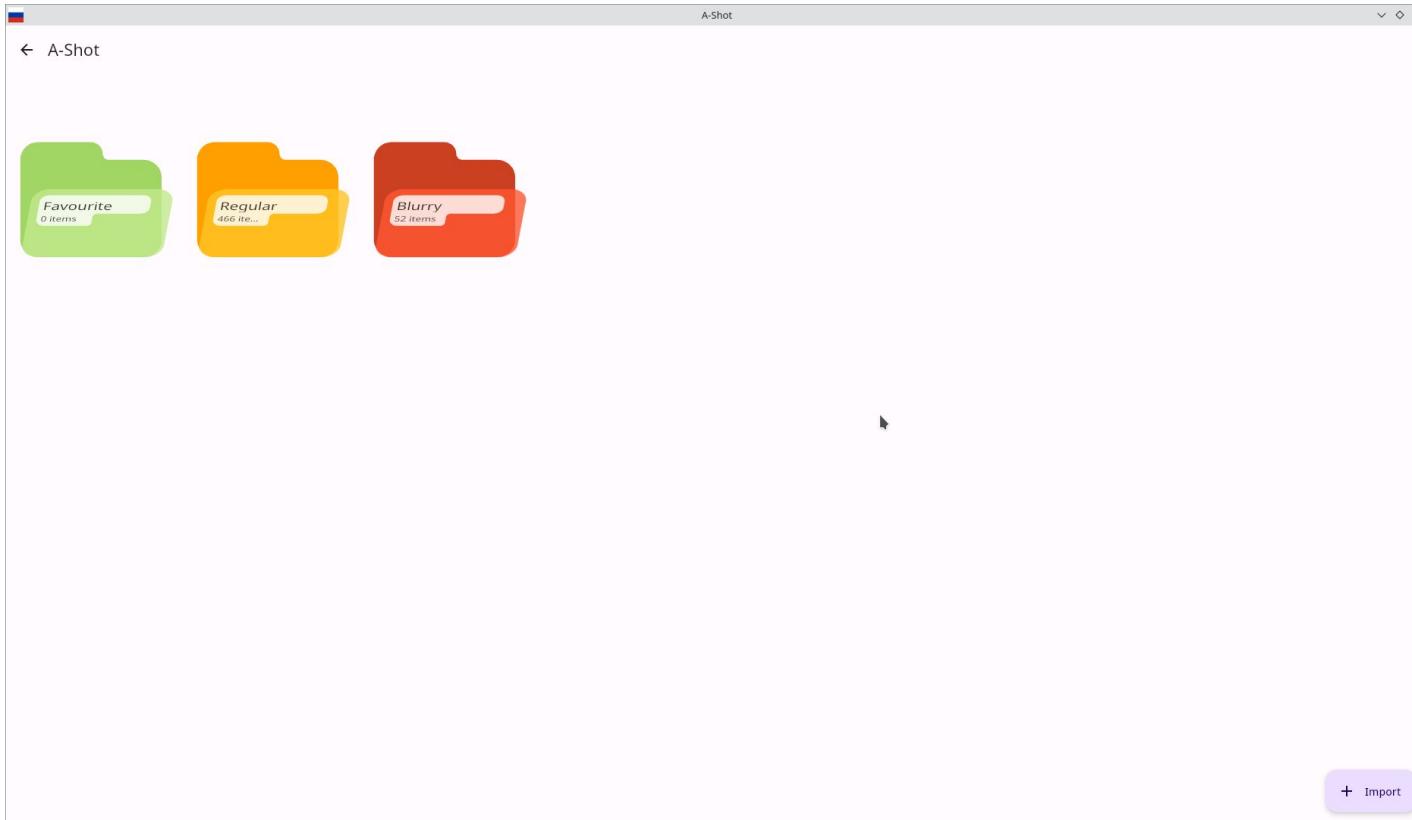


The processed image, with
blurred black regions

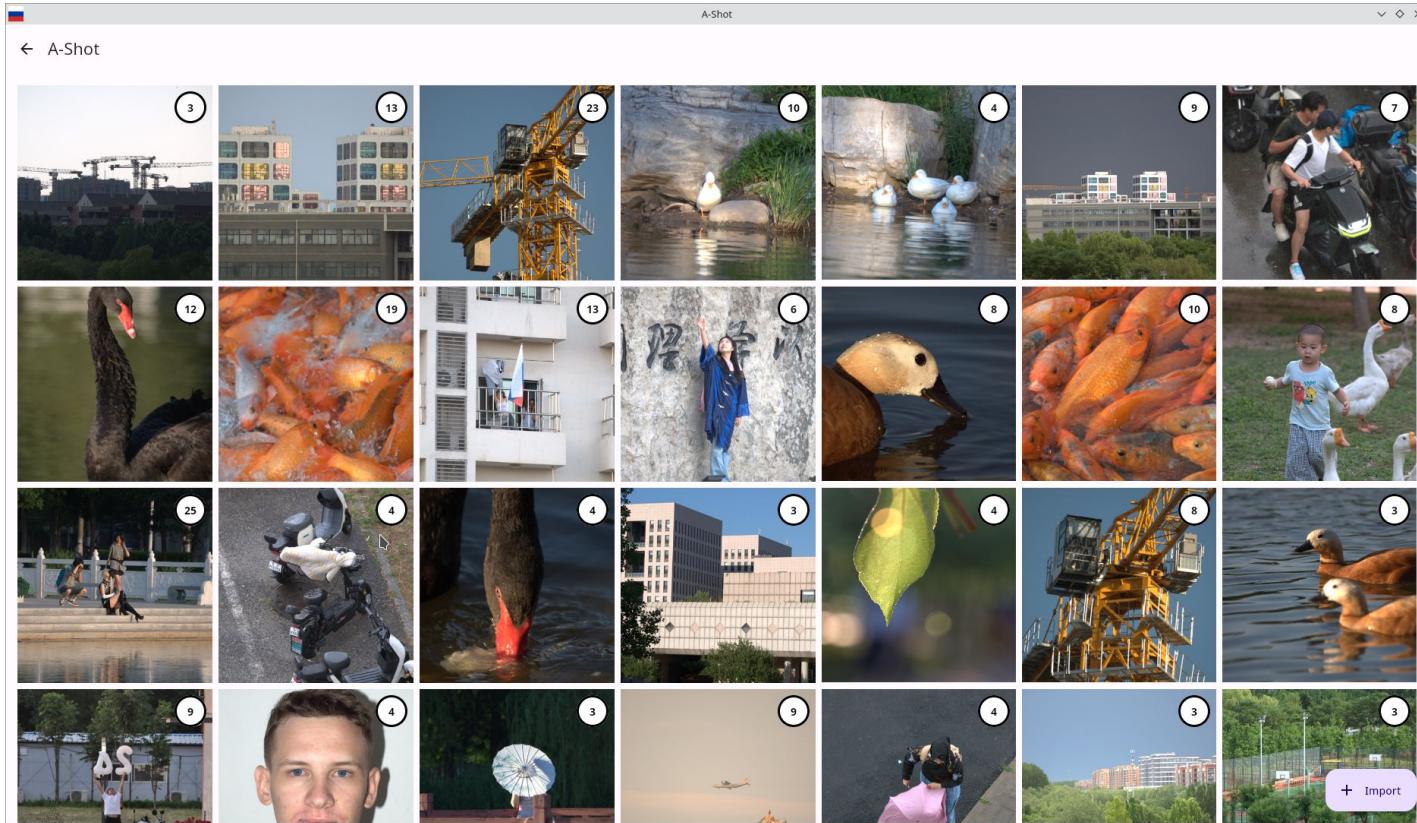
System UI



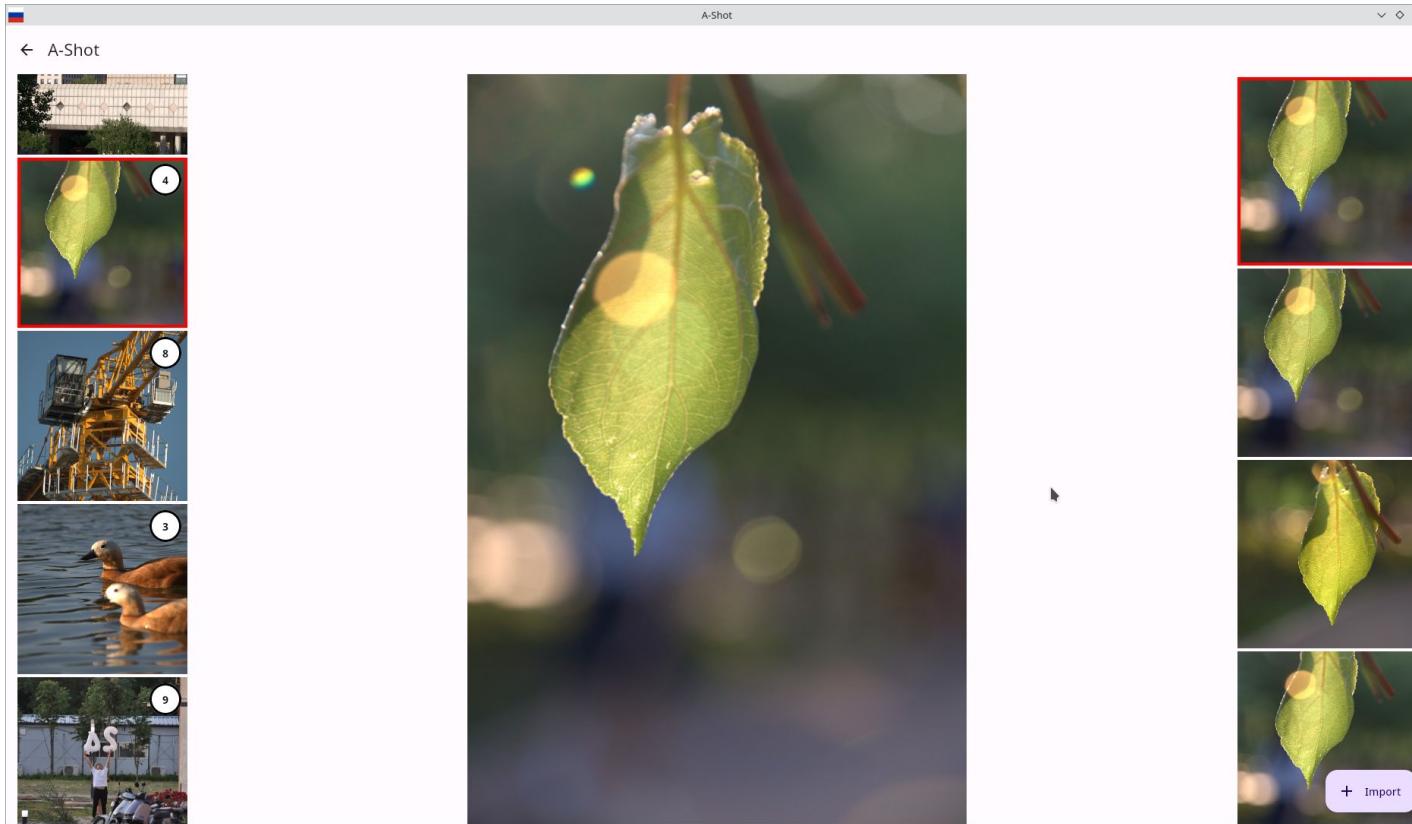
System UI



System UI



System UI



**Time for
Demo!**

Our Team

Nikita

Full-stack developer



Timofey

ML Developer



Artemii

Team Lead,
ML, Full-stack
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DevOps



Artur

ML developer



Egor

Frontend
developer



Matthew

Product
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Frontend dev.



Mikhail

ML developer,
Toaster

Thank you for attention!

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