



## Sergei Chicherin

Computer Vision, AI, Engineering

- ▶ Image and Video Generation
- ▶ Applied AI
- ▶ Cloud Computing
- ▶ Neural Networks to Devices
- ▶ Web Services and Software Architecture

## Contact

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## Previous Roles

**Team Lead** 7+ yrs.

**CV Engineer** 5+ yrs.

**Research Scientist** 4+ yrs.

**Software Engineer** 10+ yrs.

**Software Architect** 2+ yrs.

## About

20 years of programming experience at IBM, Samsung, and Huawei. 9 years of expertise in Computer Science Research, coupled with 6 years in Deep Learning. Led a research teams for 5 years with up to 6 members. MSU graduate and Russian Academy of Science postgraduate in Applied Mathematics. Finished 15 ML research [projects](#). Author of [SOTA](#) in portrait matting.

## Work experience

### Head of AI

Gradient, Persona mobile apps  
**TicketToTheMoon**

2023 - Now

Developing Generative AI Models, including face filters, for Gradient and Persona mobile applications with a user base of 70 million people.

### Head of NPU optimization

Smart Displays  
**SaluteDevices**

2021 - 2022

Led the creation of a [generative model](#) for portrait matting. Performed neural architecture search for the fastest computer vision models on target devices with NPU.

Conducted research direction for computer vision research group.

### Lead CV Engineer

Artificial Intelligence Center  
**Samsung Research**

2018 - 2021

Computer Vision R&D in Telepresence Lab.  
Image Inpainting, 3D Retargeting for VR.  
Blind Image QA, collecting custom dataset.  
Network conversion and mobile demo of neural avatars(talking MonaLisa) for [most discussed science article in 2019](#) .

### Chief Science Officer

AI Startup  
**Skychain Global**

2018 - 2019

Led a team of 6 ML Engineers in creating a docker cloud-based platform for medical diagnostic which separates patient data and algorithms for analysis. Investigating [SOTA methods](#) for classification and segmentation in cancer tumor images. Created brain tumor image visualization and worked with pathologists resulting in a new cancer tumor dataset and methods for differential diagnosis.

### Research Scientist

Noah Arc Laboratory  
**Huawei**

2017 - 2018

Worked on image enhancement projects, including denoising and super resolution for Huawei mobile phones.

Demonstrated real-time video super resolution at Huawei CVPR stand.

Contributing to achieving the best phone camera according to [dxomark.com](#) in 2017 and first AI zoom working on NPU on Huawei P20 Pro (Outstanding achievement award).

## Education

2004 - 2006

**Center for Theoretical Problems of Physicochemical Pharmacology**

**Russian Academy of Science**

*Computer Science • Biophysics*

Research thesis: „Mathematical model of blood coagulation“.

1998 - 2003

**Department of Mathematics  
Moscow State University**

Master's thesis: „Applying some facts from group representation theory to graphs“.

1996 - 1998

**Kolmogorov School**

*Winner of Moscow physics olympiad.*

## Interests

- ▶ Running (marathons and trails)
- ▶ Board games (chess and go)
- ▶ Hiking (Kilimanjaro and Elbrus)

### Team Leader

RSTL/Watson Research

IBM

2006 - 2015

Led the [Galapagos](#) system discovery project, a toolset for obtaining and analyzing major middleware information from large data centers (>1000 servers), based on theoretical works on static code analysis and system discovery. Big example - Equator project, migration infrastructure on zLinux with a budget of \$1B.

Worked on the Apache project for SoftLayer Orchestration as a Service.

Provided several machine learning demos, using classification, topic modeling, LDA, and Alchemy API.

Created and assistant several big web portals solution based on IBM technologies.

### Consultant|Architect

several companies and startups

2015-2017,2023

I worked with companies/educational institutes on building web portals, applying NLP and ML tasks, making YC demo app, creating in-house software etc.

## Frameworks and Languages

- Autograd: PyTorch - mastered and contributed to. TensorFlow, JAX, Caffe.
- Mobile Inference: TFLite, PyTorch Mobile, CoreML, SNPE, HiAI, Khadas.
- Web: Flask, Spring MVC, Struts, IBM WS, Apache stack.
- Languages: Python(Fluent in), Java(Sun and IBM Certified), Julia, JS and bash.
- A hundred libraries on CV and NLP and general ML (ok, here is keywords - numpy, openCV, pandas, timm, Apache stack, transformers).

## Selected Publications

- Sergej Chicherin, Karen Efremyan [Adversarially-Guided Portrait Matting](#)
- Sergej Chicherin, Nikolai A. Joukov, Birgit Pfitzmann, Marco Pistoia, Vasily Tarasov, Takaaki Tateishi, Norbert G. Vogl Method and system to discover possible program variable values by connecting program value extraction with external data sources. US Patent <http://www.google.com/patents/US8561035>
- Nikolai Joukov, Vasily Tarasov, Birgit Pfitzmann, Sergej Chicherin, Marco Pistoia and Takaaki Tateishi. Discovery of Hard-coded External Dependencies in Enterprise Production Environments. 12th IFIP/IEEE International Symposium on Integrated Network Management (IM 2011), Dublin, Ireland, May 2011.

## Teaching Experience

- NTR seminar on Mobile Inference <https://ict2go.ru/events/22040/> 2020
- Crash course for engineer team on deep learning 2019
- Lecture on Image Generation for broad(>500 persons) audience in science festival, 2017
- Prepared and taught courses on IBM technologies in MIIT in 2005