

## Contact

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## Top Skills

Algorithms  
C  
Matlab

## Languages

English (Professional Working)  
Russian (Native or Bilingual)

## Certifications

Machine Learning  
Probabilistic Graphical Models  
Digital Signal Processing

## Publications

On Bigram Languages (In Russian)  
On bigram languages  
On cardinality of bigram languages  
On Cardinality of Bigram Languages  
(In Russian)

## Patents

Soft attenuation of high-power  
signals  
Motion Estimation for a Video  
Transcoder  
Three-Dimensional Region of  
Interest Tracking Based on Key  
Frame Matching  
Time-domain acoustic echo control  
Trapping-set database for a low-  
density parity-check decoder

# Alexander Petyushko

AI Expert & TeamLead at Huawei Technologies  
Russian Federation

## Summary

Mathematics, algorithms, programming, family ;)

## Experience

Huawei Technologies

5 years 9 months

AI Expert, TeamLead

April 2019 - Present (1 year 2 months)

Moscow, Russian Federation

R&D project in Artificial Intelligence (AI).

Video Intelligence & Fundamental Research TeamLead.

FaceID: Identification, Verification, Quality Assessment, Facial Landmarks.

Robustness in DL: Adversarial Attacks, Universal Perturbations, Differential  
Privacy.

Geometrical DL: Out-of-distribution and Metric learning on Manifolds.

Statements of Works preparations for independent and collaboration projects  
(including tasks for Fundamental Research in AI).

Interviewing young talents.

Awards:

2019 - Outstanding Individual Award

2019 - Team Golden Medal (as a part of the team)

2019 - Future Star

Principal Engineer, GroupLead

September 2017 - April 2019 (1 year 8 months)

Moscow, Russian Federation

R&D project in Artificial Intelligence (AI).

Video Intelligence group.

Head of Neural Net-based face recognition (identification / verification).

Multi-task end2end solutions (keypoints / detection / segmentation).

Awards:

2018 - Technology Innovation and Breakthrough Award

2018 - Quality Star

Scientific Consultant

September 2014 - September 2017 (3 years 1 month)

Moscow, Russian Federation

R&D project in new storage media.

Cold data storage systems.

Erasure coding techniques.

Object placement & scheduling algorithms.

File type recognition.

Neural Net compression.

Neural Net - based techniques for Image Super Resolution.

Neural Net - based techniques for Image DeBlur.

Awards:

2017 - Outstanding Contractor Award

LSI Corporation

Software Engineer

November 2008 - May 2014 (5 years 7 months)

Moscow, Russian Federation

Algorithms development and implementation in:

- H.264 Video Trans-Sizer (Regexps Perl coding),
- Media GateWay DSP Solutions (Voice Quality Enhancement modules: Echo Cancellor, Automatic Level Control, High Level Compensation – C programming for DSP),
- BaseBand Project (WCDMA Layer 1 protocol implementation: PRACH preamble detection – C programming for vector processors),
- ReadChannel Project (Trapping Set analysis, Error Floor Estimation for LDPC codes - mainly MatLab+MEX programming),
- GR Project (hand/finger Gesture Recognition, Head Pose estimation using 3D cameras, 3D Face Recognition using low-resolution noisy 3D camera, Super Resolution of Depth images - MatLab/C/C++ programming);,
- FlashChannel Project (Flash Translation Layer, especially Wear Leveler module - C++ programming);

A number of USA patents (some of them as a lead inventor) were filed.

RIRC of Bryansk region

Programmer

February 2007 - November 2008 (1 year 10 months)

Creating and supporting of a large DB (~1-10M records) on Oracle, implementing its functionality using PL/SQL; a number of client interfaces (Perl – CGI\Tk, AJAX (prototype, jQuery), Delphi) for interconnection with DB; Windows SVN server administration.

## Computer Technologies

### Programmer

September 2006 - April 2007 (8 months)

Bryansk Region, Russian Federation

Creating and supporting of bundled software to automate Internet provider tasks (accounting systems, billings, client and server-side for payment systems CyberPlat and OSMF using MySQL, PostgreSQL and Perl); implementing different web-interfaces and admin scripts (Perl, bash + sed, grep, awk) on demands for the administration department.

### Auriga

Integration & testing department specialist

February 2006 - June 2006 (5 months)

Moscow, Russian Federation

RTOS lynxOS testing in different environments, different scripts for testing (Perl, bash + sed, grep, awk); participating in porting utilities, OS code bug fixing (C); using CVS, RCS.

### Neurocom

Software Engineer

December 2003 - June 2006 (2 years 7 months)

Speech experiments, algorithms development (Matlab, C) and speech recognition in noisy conditions.

## Optical and Electronic technologies

Software Engineer

July 2005 - April 2006 (10 months)

Moscow, Russian Federation

Statistical experiments, algorithms development using Matlab for observation and tracing problem (video data from infrared imager).

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## Education

Lomonosov Moscow State University (MSU)

Doctor of Philosophy (Ph.D.), Mathematics, Mathematics · (2009 - 2012)

Lomonosov Moscow State University (MSU)

Master's Degree, Mathematics, Mathematics · (2000 - 2006)

Bryansk Pushkin's Lyceum 1

High School · (1997 - 2000)