

# Aleksey Parfenov

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## Summary of qualifications:

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- Over 10 years in software engineering
- System software development
- Computer languages: Java, C/C++, Python
- Languages: Russian, Fluent; English, IELTS 6

## Employment History:

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### KOMPAS

#### ***C#/C++ Developer***

*Sep 2023 – Now*

- Development of GNSS assisted landing system
- Implementing software components according to specification
- Offline and online testing with Python scripting and automation, utilizing MQTT telemetry data
- Implemented in Rust language high-loaded parts of the software
- Used C# for high-level logic, Rust, C++ for low-level. Use of Git, docker, python

### BrainShells

#### ***Java Developer***

*Apr 2023 – Jul 2023*

- Developing Java backend for game clients (Java Core, Git)

### NIIT-RK

#### ***C++/Python Software Engineer***

*Oct 2022 – Apr 2023*

- ML experiments with time-series prediction models (Python, Pytorch, numpy, OpenCV)
- Qt app development (Python, C++, Qt. QML, ROS2)

### Arlo

#### ***Computer Vision/Machine Learning Engineer***

*Dec 2018 – May 2022*

- Developing, training, optimizing and evaluating machine learning models for Object Re-Identification
- Data preparation and annotation pipelines with CVAT, celery, DynamoDb (NoSQL)

- Tools and frameworks: C++/Python. PyTorch, fast-reid, mmdetection. CVAT, AWS, EC2, Sagemaker. Linux, Docker, CI/CD

## **Rocket Software**

### ***Java Developer***

*Nov 2014 – Dec 2018*

- Developed JDBC driver for Mainframe Database
- Used Java Core, Collections, ByteBuffers, Reflection, Networking, Custom protocol, Cryptography: AES, Kerberos, multithreading, regex, OOP, patterns, Unit Testing, Functional Testing, Knowledge Transfer/Reuse from ODBC team
- Developed Eclipse database UI. Used Eclipse RCP, Legacy Code, Refactoring, Code reuse, SWT
- Led a team of engineers to write a database web UI and entered it into Rocket Software's Boston hackathon. Used Spring Boot, Hibernate, DOJO
- Work in an international team, weekly meetings, Git, Subversion, Test Driven Development, QA, build automation with Bamboo, task management with Jira

## **3DiVi Inc.**

### ***Software Developer intern***

*Sep 2017 – Jul 2018*

- developed basic hand and face detector for RGB-D image source and won 2nd place with it at local competition
- Synthesis and augmentation of training data with 3D modelling software Blender. Training and validation of convolutional neural networks. Python: Keras, Tensorflow.
- Covered Topics: PCA, RANSAC, non-max suppression, eigenvalues, rotation matrix, quaternions, LSQ, mean shift, ICP, SLIC, SVM, HOG, KNN, SIFT, matching, neural networks basics

## **LANIT-URAL**

### ***Java developer***

*Dec 2012 – Dec 2014*

- Used Process Definition Language, web stack (Spring, JavaScript, JQuery, FreeMarker)
- Implemented online form generator (used ZK framework, FreeMarker) that increased efficiency of templates creation for E-government services environment

## **NPO RTS**

### ***C++|C# Developer***

*Mar 2010 – Oct 2012*

- Designed and implemented UI on embedded system for complex embedded equipment. Used OOP, C++, patterns, Protobuf, Microchip Harmony, PIC32, Visual Studio, NIOS II, TI DSP, Custom networking, FPGA, Verilog
- Developed version of the UI for Linux embedded platform. Used LFS, configured display driver, kernel, Device Tree Compiler
- Developed instrumental and research software with C++, C#, Java for Windows and embedded systems
- Applied hardware skills: wiring, soldering, testing, signal measurement with oscilloscope

## METRAN IG

### *Embedded software engineer*

*Nov 2005 – Jun 2008*

- Work in a team. Use of CMMI models. Use of CASE-tools ClearCase, ClearQuest , iterative development (parts of RUP methodology)
- UML- description of software architecture (structure diagrams, behavior diagrams) , Object-oriented programming on C++ with full use of design patterns
- Regular meetings for code review, the use of Scrum-methodology in the development process. Quality control using sixSigma DMAIC in the whole company

### Education:

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- **2003 – 2005 South Ural State University**  
Theory and practice of English language, Diploma 761109
- **2001 – 2005 South Ural State University**  
Design and development of electronic equipment, Diploma BCB 0728434

### Professional Training:

2019, **Deep Learning Specialization**, @Coursera  
<https://www.coursera.org/account/accomplishments/specialization/certificate/6WB33V3ULXKB>

Apr 2018 - June 2018

### Computer Vision School at 3DiVi

- During the training developed basic hand and face detector for RGB-D image source and won 2nd place with it at local competition.
- Synthesis and augmentation of training data with 3D modelling software Blender. Training and validation of convolutional neural networks. Python: Keras, Tensorflow.
- Covered Topics: PCA, RANSAC, non-max suppression, eigenvalues, rotation matrix, quaternions, LSQ, mean shift, ICP, SLIC, SVM, HOG, KNN, SIFT, matching, neural networks basics.

2017, **IELTS Certificate**

obtained level 6