Aleksey Parfenov

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Summary of qualifications:

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

Employment History:

KOMPAS

C++ Developer *Sep 2023 – Now*

- Implementation of control algorithms for the airport's GNSS satellite signal correction ground station. The device has passed testing and received type certification.
- Optimization of GNSS satellite signal simulation software using the NVIDIA CUDA GPU accelerator. A 10-fold increase in performance was achieved.
- Development of software for runway occupancy signaling equipment. The system has been certified and is successfully in operation.
- Technologies used: C++, C#, Python, CUDA

NIIIT-RK

C++ 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 supression, 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:

- **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 supression, eigenvalues, rotation matrix, quaternions, LSQ, mean shift, ICP, SLIC, SVM, HOG, KNN, SIFT, matching, neural networks basics.

2017, **IELTS Certificate** obtained level 6