

BORIS VISHNYAKOV

Cell: +7 903 108-64-53

Mail: mail@ellectu.net

Date of Birth: 27.01.1984

Family status: married, have a son



ABOUT ME

I have over **15 years of experience** in image processing, machine learning and software development for real-time video surveillance or other image and video processing tasks; over 9 years in team lead and project management. I have PhD degree in system analysis, control and information processing and a number of publications in international journals.

I am looking for a **IT Director** or **Research and development group leader** position in the respectable international or Russian company.

Desired salary: 10000\$+

For full interactive CV please visit <http://me.ellectu.net>.

EDUCATION

Moscow Aviation Institute – Applied Mathematics (2000-2009). Graduated with honors from the university in 2006. Got PhD degree in system analysis, control and information processing in 2009: “Development of deterministic equivalent and bootstrap methods for stochastic programming tasks with probabilistic or quantile criteria”.

OVER 15 YEARS EXPERIENCE

--- FGUP GOSNIIAS (2012 – CURRENT)

HEAD OF LABORATORY

Leading a laboratory of 12-14 people (scientists, developers, engineers, testers and other technical staff), divided into 3 groups

Development of application software

Writing papers, participation in the top conferences (IEEE, SPIE, ISPRS)

Development of new methods for image processing and machine learning

Project management:

- Client-server biometric system using DL photos in US (West Virginia, Indiana)
- Client-server system of aerial photography
- Library for video analysis (ITV/AxxonSoft)
- Client-server system for video processing (AnalyticVideo)
- Leading two RFBR grants (12-07-00789 Technology and development of intelligent video analytics for automated situational video surveillance and security, 15-07-09362 Detection and identification of the person and the vehicle on the images from the cameras), taking part in other 5-7 RFBR grants.

--- FGUP GOSNIIAS (2010 – 2012) HEAD OF GROUP

--- FGUP GOSNIIAS (2006 – 2010) ENGINEER

--- FGUP GOSNIIAS (2005 – 2006) TECHNICIAN

--- MOSCOW AVIATION INSTITUTE (2009 – 2014)

--- MOSCOW INSTITUTE OF PHYSICS AND TECHNOLOGY (2012 – 2014)

ASSOCIATE PROFESSOR

Lectures:

- Probability theory and statistics
- Applied statistics in sociology
- Image processing

Seminars:

- Probability theory and statistics
- Applied statistics in sociology
- Mathematical analysis
- The theory of stochastic processes

PERSONAL QUALITIES

I am an energetic person and I learn very fast. I have the ability to understand the problem and find an effective solution in a limited period of time.

I have advanced skills in such fields of science as statistics, stochastic programming, image processing, machine learning, software development (full life cycle of development).

I also have advanced skills in team and project and product management, business communication and writing technical documents.

SKILLS

MANAGEMENT SKILLS

- TEAM MANAGEMENT
- PROJECT MANAGEMENT
- FULL CYCLE SOFTWARE DEVELOPMENT
- SCRUM/AGILE

MANAGEMENT SOFTWARE

- FULL CYCLE DEVELOPMENT
- MS SHAREPOINT
- TEAM FOUNDATION SERVER

SCIENTIFIC FIELDS

- STATISTICS AND DATA MINING
- IMAGE PROCESSING
- DEEP LEARNING
- MACHINE LEARNING
- IMAGE SEQUENCE PROCESSING
- STOCHASTIC PROGRAMMING

SCIENTIFIC SOFTWARE

- MATHCAD
- MAPLE
- MATLAB
- STATISTICA
- R

PROGRAMMING AND MARKUP LANGUAGES

- C++ (STANDARD, VISUAL C++, QT, STD, C++ 11)
- C# (.NET, WPF)
- PASCAL
- PYTHON (STANDARD, NUMPY)
- BASH, SHELL
- PHP
- PERL
- JAVASCRIPT (STANDARD, JQUERY, AJAX)

SYSTEM, PROGRAMMING, OFFICE AND MULTIMEDIA SOFTWARE

- WINDOWS (XP, VISTA, 7, 8, 10), WINDOWS SERVER (2003, 2008, 2012)
- LINUX (DEBIAN, UBUNTU, KUBUNTU)
- MS VISUAL STUDIO, ECLIPSE, QT CREATOR
- MS OFFICE (MS WORD, MS POWERPOINT, MS EXCEL, MS SWAY)
- OPENOFFICE
- GOOGLE DOCS

- HTML, CSS (2.0, 3.0, BOOTSTRAP, FOUNDATION, BLUEPRINT)
- TEX, LATEX
- SVN: GITHUB, T
- PHOTOSHOP
- FFMPEG, MENCODER, VIRTUALDUB

KEY PAPERS

1. Boris V. Vishnyakov and Andrey I. Kibzun A Two-Step Capital Variation Model: Optimization by Different Statistical Criteria // Automation and Remote Control 66(7):1137-1152, 2005. [Scopus, WoS]
2. Boris V. Vishnyakov and Andrey I. Kibzun Deterministic equivalents for stochastic programming problems with probabilistic criteria // Avtomatika i Telemekhanika (6):126-143, 2006. In Russian.
3. Boris V. Vishnyakov and Andrey I. Kibzun Application of the bootstrap method for estimation of the quantile function // Automation and Remote Control 68(11):1931-1944, 2007. [Scopus, WoS]
4. Boris V. Vishnyakov, Yuri V. Vizilter, Vladimir A. Knyaz Spectrum-based object detection and tracking technique for digital video surveillance // Melbourne, Australia. International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences (XXXIX-B3):579-583, 2012. [Scopus]
5. Boris V. Vishnyakov, Anton I. Egorov Construction of confidence regions for motion trajectories of objects in computer vision problems // Journal of computer and systems sciences international 52(3):124-132, 2013. [Scopus, WoS]
6. Boris V. Vishnyakov, Ivan K. Malin, Yuri V. Vizilter, Shih-Chia Huang, Sy-Yen Kuo Fast car/human classification methods in the computer vision tasks // Munich, Germany. Proceedings of SPIE Optical Metrology, (8791):87911L-1 – 87911L-10, 2013. [Scopus, WoS]
7. Boris V. Vishnyakov, Yi-Jui Cheng, Bo-Hao Chen, Shih-Chia Huang, Sy-Yen Kuo, A. Kopylov, O. Seredin, L. Mestetskiy, Y. Vizilter, O. Vygolov, Chia-Ruei Lian, Chi-Ting Wu Visibility Enhancement of Single Hazy Images Using Hybrid Dark Channel Prior // In proceeding of: IEEE International Conference on Systems, Man, and Cybernetics (SMC): 3627-3632, 2013. [Scopus, WoS]
8. Boris V. Vishnyakov, Fan-Chieh Cheng, Bo-Hao Chen, Shih-Chia Huang, S-Y Kuo, A. Kopylov, Y. Vizilter, L. Mestetskiy, O. Seredin, O. Vygolov An automatic motion detection algorithm for transport monitoring systems // In proceeding of: IEEE 17th International Symposium on Consumer Electronics (ISCE): 195-196, 2013. [Scopus, WoS]
9. Boris V. Vishnyakov, Anton I. Egorov, Sergey V. Sidyakin, Ivan K. Malin, Yuri V. Vizilter Statistical model for pseudo-moving objects recognition in video surveillance systems // Zurich, Switzerland. In proceedings of Photogrammetric Computer Vision - PCV 2014 (ISPRS Technical Commission III Midterm Symposium), 2014. [Scopus]
10. Boris V. Vishnyakov, Vladimir V. Gorbatsevich, Anton I. Egorov, Sergey V. Sidyakin, Ivan K. Malin, Yuri V. Vizilter Fast moving objects detection using iLBP background model // Zurich, Switzerland. In proceedings of Photogrammetric Computer Vision - PCV 2014 (ISPRS Technical Commission III Midterm Symposium), 2014. [Scopus]
11. Boris V. Vishnyakov, Sergey V. Sidyakin, Yuri V. Vizilter Diffusion background model for moving objects detection // Moscow, Russia. The International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences (ISPRS Archives), 2015. [Scopus, WoS]
12. Boris V. Vishnyakov, Vladimir S. Gorbatsevich, Sergey V. Sidyakin Fast interframe transformation with local binary patterns // Munich, Germany. Automated Visual Inspection and Machine Vision, Proceedings of SPIE Optical Metrology: (9530), 2015. [Scopus, WoS]
13. Boris V. Vishnyakov, Yuri V. Vizilter, Vladimir V. Knyaz, Oleg V. Vygolov, Sergey Y. Zheltov Stereo sequences analysis for dynamic scene understanding in a driver assistance system // Munich, Germany. Automated Visual Inspection and Machine Vision, Proceedings of SPIE Optical Metrology: (9530), 2015. [Scopus, WoS]
14. Sergey V. Sidyakin, Boris V. Vishnyakov, Yuri V. Vizilter, and Nikolay I. Roslov Mutual comparative filtering for change detection in videos with unstable illumination conditions // Int. Arch. Photogramm. Remote Sens. Spatial Inf. Sci., XLI-B3, 535-541, 2016, doi:10.5194/isprs-archives-XLI-B3-535-2016. [Scopus, WoS]

15. V. V. Molchanov, B. V. Vishnyakov, Y. V. Vizilter, O. V. Vishnyakova, V. A. Knyaz Pedestrian detection in video surveillance using fully convolutional YOLO neural network // Proc. SPIE 10334, Automated Visual Inspection and Machine Vision II, 103340Q, 2017, doi: 10.1117/12.2270326. [Scopus, WoS]
16. S. V. Sidiyakin, B. V. Vishnyakov Real-time detection of abandoned bags using CNN // Proc. SPIE 10334, Automated Visual Inspection and Machine Vision II, 103340J, 2017, doi: 10.1117/12.2270078. [Scopus, WoS]
17. Molchanov, V. V., Vishnyakov, B. V., Gorbatshevich, V. S., and Vizilter, Y. V.: Etalon images: understanding the convolution neural networks, Int. Arch. Photogramm. Remote Sens. Spatial Inf. Sci., XLII-2, 707-714, <https://doi.org/10.5194/isprs-archives-XLII-2-707-2018>, 2018. [Scopus, WoS]
18. Aglyamutdinova, D. B., Mazgutov, R. R., and Vishnyakov, B. V.: Object localization for subsequent UAV tracking, Int. Arch. Photogramm. Remote Sens. Spatial Inf. Sci., XLII-2, 9-14, <https://doi.org/10.5194/isprs-archives-XLII-2-9-2018>, 2018. [Scopus, WoS]
19. Anastasiia Moiseenko, Yuri Vizilter, Boris Vishnyakov, Vladimir Gorbatshevich, and Oleg Vygolov "Region proposal-based semantic matcher", Proc. SPIE 11061, Automated Visual Inspection and Machine Vision III, 1106109, 2019. <https://doi.org/10.1117/12.2525233> [Scopus, WoS]
20. Stanislav Brianskiy, Boris Vishnyakov, Vladimir Gorbatshevich, and Yury Vizilter "Image filtering using morphological thickness map", Proc. SPIE 11061, Automated Visual Inspection and Machine Vision III, 110610A, 2019. <https://doi.org/10.1117/12.2525362> [Scopus, WoS]

CURRENT POSITION

I work in FGUP GosNIIAS since 2005 in the area of machine vision and software development. Started as a technician in 2005, obtained a head of group position in 2010. At the moment hold a head of image processing laboratory position and manage 22 scientists, developers, engineers, testers and other technical staff, divided into 4 groups.

During last 9 years I supervised the development and implementation of the image processing and machine learning algorithms for video surveillance, image and video processing, technical vision tasks, autonomous driving systems. Oversaw the development, testing and support of the software, based on the implemented algorithms. Prepared and published more than 40 papers, more than 20 of them in SCOPUS and WoS databases. Promoted latest technologies for algorithm implementation and optimization (mostly C++ with some procedures in SSE2, SSE4, CUDA), and for creation of modern, stylish and responsive user interfaces (mostly C# WPF). Widely used team and project management, source control, automatic testing software - MS Sharepoint + MS Project Server + MS Team Foundation Server.

HOBBIES & INTEREST

- Web programming
- Photography
- Travelling
- Playing piano
- Football