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Position: Researcher
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Education

M.S. Lomonosov Moscow State University 2002 Applied mathematics and informatics
PhD Keldysh Institute of Applied Mathematics RAS 2005 Mathematical software

Research interests

Computer vision, pattern recognition and image analysis, video surveillance, image-based 3D reconstruction, LIDAR-data analysis, application of computer vision in biology and psychology

Teaching

- “Introduction to computer vision”, Lomonosov Moscow State University
- “Topics in computer vision”, Lomonosov Moscow State University
- “Computer graphics”, Lomonosov Moscow State University
- “Image and video analysis”, Yandex School on Data Analysis

Professional activity

- Co-chair, Program Committee, International conference on computer graphics and vision GRAPHICON-2009
- Co-chair, Program Committee, International conference on computer graphics and vision GRAPHICON-2010
- Member, Program Committee, EMMCVF-2010
- Member, Young scientist council of CMC MSU
- Member, Program Committee, EMMCVF-2011
- Chair, Program Committee, International conference on computer graphics and vision GRAPHICON-2011
- Director, Microsoft Computer Vision Summer School 2011
- Coordinator, Graphicon – non-profit association of researchers in fields of computer graphics, machine vision and image processing in Russia

Selected projects

- Microsoft Research (research contract), 2010-2014. “Computer vision collaborative research in Russia”. Principle investigator. The main goals are real-time video segmentation, interactive video matting, text detection in unconstrained images, and new methods of graphical models application to computer vision problems.
- Grant of President of Russian Federation (grant MK-3827.2010.9), 2012-2013. «Content-based search in large video archives». Principle investigator. The main goals are new algorithms for fast indexing of video surveillance data and reidentification in video archives.

- Russian Foundation for Basic Research (grant 11-01-00957), 2011-2013. «Video-based person analysis algorithms for smart interfaces». Principle investigator. The main goals are person and face tracking, face images recognition, person categorization.
- Federal target program "Scientific and scientific-pedagogical personnel of innovative Russia in 2009-2013" (research contract P1189), 2009-2011. "Semantic image and 3D point cloud analysis for 3D modeling and remote not-destructive diagnostics". Principle investigator. The main goals were enhancement image-based urban modeling, point cloud segmentation, and data analysis from mobile mapping platforms.
- Russian Foundation for Basic Research (grant 08-01-00883a), 2008-2010. "Urban modeling and visualization system based on semantic image analysis". Principle investigator. The main goal was a development of automated image-based urban reconstruction system from consumer photographs.
- "Intellimize - High-throughput, fully automated and cost-effective behavioural phenotyping of normal, clinical and genetic mouse models" (Research contract under EU 6 framework program), 2007-2009. Researcher.
- Samsung Advanced Institute of Technology (research contract), 2007-2008. Image-based reconstruction. Principle investigator.

Selected publications:

- Kononov V., Konushin V., Konushin.A. People Tracking Algorithm for Human Height Mounted Cameras. // Proceeding of DAGM'11, Lecture Notes in Computer Science, Volume 6835/2011, Springer Berlin / Heidelberg, 2011, pp. 163-172.
- Yakubenko A., Kononov V., Mizin I., Konushin V., Konushin A. Reconstruction of structure and texture of city building facades. // Programming and Computer Software, 2011, Programming and Computer Software, Vol. 37, No. 5, pp. 260-269.
- Lomakina-Rumyantseva E., Voronin P., Kropotov D., Vetrov D., Konushin A. Video tracking and behavior segmentation of laboratory rodents. // Pattern Recognition and Image Analysis, MAIK Nauka/Interperiodica, 2010, pp. 616–622
- Barinova O., Shapovalov R., Sudakov S., Velizhev A. Konushin. A. Efficient road mapping via interactive image segmentation. // Proceedings of 3D City Models, Road Databases and Traffic Monitoring (CMRT 2009), IAPRS, 2009, p.1-6
- O. Barinova, V. Konushin, A. Yakubenko, K. Lee, H. Lim, A.Konushin Fast Automatic Single-View 3-d Reconstruction of Urban Scenes // Proceedings of the 10th European Conference on Computer Vision (ECCV-2008), Lecture Notes In Computer Science; Vol. 5303, France, 2008, pp. 100-113
- Konushin A., Lomakina-Rumyantseva E., Kropotov D., Vetrov D., Cherepov A., Anokhin K.. Automated distinguishing of mouse behavior in new environment and under amphetamine using decision trees. // Proc. of Measuring Behavior 2008, Maastricht, Holland, 2008, pp.304-305
- Vezhnevets V., Konushin A., Ignatenko A. Interactive Image-Based Urban Modelling. // The International Archives of the Photogrammetry, Remote Sensing and Spatial Information Science, Volume 36, Part 3 / W49A, Munich, Germany, 2007, pp.63-68
- Konushin A, Gaganov V, Vezhnevets V. Extending RANSAC-based estimators to handle unknown and varying noise level. // Siberian Journal of numerical mathematics, Number 3, Novosibirsk, Russia, 2006, pp.263-277

- Park I, Bayakovskii Y, Levkovich-Maslyuk L, Han M, Ignatenko A, Zhirkov A, et al. Depth Image-Based Representation and Compression for Static and Animated 3-D Objects. // IEEE Transactions on circuits and systems for video technology, vol. 14, no.7, July 2004, pp. 1032-1045
- Bayakovskii Y, Levkovich-Maslyuk L, Ignatenko A, Konushin A, Timasov D, Zhirkov A, Mahnjin Han, In Kyu Park. Depth Image-Based representations for static and animated 3D objects. // In Proc. of IEEE International Conference on Image Processing, vol.2, Rochester, New York, September 22-25, 2002, pp.25-28

Startup companies and innovation activities:

- Consultant, “Mobile Mapping Technologies”, <http://mobimaptech.ru/>
- Consultant, “Synesis”, <http://synesis.ru>
- Co-founder, “PhotoGorodMod”, <http://labcv.ru>
- Co-founder, “Video Analysis Technologies”, www.tevian.ru