

Personal Details

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Current position Professor in Computer Science University of Information Science and Technology "St. Paul the Apostle", Macedonia	
Professional background	
<p>Dr. Dmytro Zubov received his Dipl. Engineering from V.Dahl East Ukrainian National University in 1995, his PhD in Engineering (lower-level doctorate) at Donetsk National Technical University in 1998, and then his PhD in Engineering (higher-level doctorate) at Kryvyi Rih Technical University in 2006. After his graduation, he worked as a software engineer at “Lutri” company (1996-1998), as a teaching assistant (1996-2000), and then as a professor (2000-2011) at V.Dahl East Ukrainian National University, where he was responsible for several national projects. From Sept 2011 to Jul 2015, he was professor in Computer Science at University of Information Science and Technology "St. Paul the Apostle", Macedonia. From Aug 2015 to Jul 2016, he was professor in Computer Science at Tecnológico de Monterrey, Mexico. Since Aug 2016, he is professor in Computer Science at Universidad Politécnica de San Luis Potosí, Mexico. He is (co)author of more than 120 publications including four books. Dr. Zubov passed successfully certification in Microsoft (.NET Framework, Web Applications; Server Virtualization with Windows Server Hyper-V and System Center) and IBM (UDB DB2 Programming). Currently, he is supervisor of Microsoft Windows Azure Educator Grant, IEEE member. He has got Microsoft Azure Research Award.</p>	
Research interests	
Cloud computing, quantum computing, IoT, artificial intelligence, databases, web-technologies, programming languages, inductive synergetic theory, climate long-range forecast, e-commerce	
Scientific activities	
<i>Vision</i>	
<p>My primary research goals are directed toward development and improvement of cloud (public Windows Azure and private Windows Server 2008/2012 R2 both) and adiabatic quantum computing apps. In particular, long-range weather forecasting (averages and extremes both) is a focus of my current research activities based on high-performance computing. As a Microsoft Windows Azure Educator grant’s supervisor and certified professional in Server Virtualization with Windows Server Hyper-V and System Center, I use cloud computing in current research. I have discovered that standardized approaches are not efficient for some specific problems like adiabatic quantum computing algorithms. Thus, my future research plans are development and improvement of corresponding soft and hardware, algorithms, and methodology for the quantum computing. In addition, the social projects to assist visually impaired and blind people using IoT devices, as well as energy-saving power grids for smart building using Arduino-compatible hardware and IoT protocols are the parts of my interests.</p>	
<i>Plan</i>	
<p>I have already applied and will submit other applications for grant support from around the world including different funds, such as Horizon-2020 and CONACYT, to extend recently demonstrated apps in the areas of the long-range forecast of extreme weather events, assistive devices for visually impaired and blind people, and energy-saving power grids for smart buildings. Also, I consider adiabatic quantum computing as a promising technology in Computer Science because of high-</p>	



performance parallel algorithms. In addition to self-organizing methods, it boosts the efficiency of many computational tasks like combinatorial optimisation using Ising model. The projects will be ready for market (“lab to market” concept).

Main publications

More than 120 research papers presented at international conferences and/or published in international journals in Computer Science, Control Theory and Informatics. (Co)author of four books, three patents. Some recent publications:

1. Dmytro Zubov. An Energy-Saving Concept of the Smart Building Power Grid with Separated Lines for Standby Devices. BRAIN – Broad Research in Artificial Intelligence and Neurosciences J., Vol. 7, Iss. 3, 2016, pp 148-156, <https://www.edusoft.ro/brain/index.php/brain/article/view/633>
2. Dmytro Zubov, Humberto Alves Barbosa. Nonanticipative Analogue Forecasting of the Air Temperature Extremes: Short and Long-Range Case Studies Based on High-Performance Computing. LAP LAMBERT Academic Publishing, 2016, 128 p.
3. Dmytro Zubov. An IoT Concept of the Small Virtual Power Plant Based on Arduino Platform and MQTT Protocol. Proc. Int. Conf. “on Applied Internet and Information Technologies”, Macedonia, Jun 3-4, 2016, pp 95-103, doi: 10.20544/AIIT2016.13
4. Laura Gabriela Hernández Bernábe, Zubov Dmytro. Dual Axis Light (Solar) Tracker Using Arduino Uno and Energy Saving Algorithm. Proc. Conf. “Computer Intelligent Systems and Networks”, Ukraine, Mar 22-24, 2016, pp 37-41, doi: 10.13140/RG.2.1.1357.7365
5. Zubov Dmytro. Early Warning of Heat/Cold Waves as a Smart City Subsystem: A Retrospective Case Study of Nonanticipative Analog Methodology. BRAIN – Broad Research in Artificial Intelligence and Neurosciences J., Vol. 6, 2015, pp 44-54, <http://brain.edusoft.ro/index.php/brain/article/view/507/545>
6. Dmytro Zubov, Francesco Volponi, Mahdi Khosravy. D-Wave Quantum Computing Ising Model: A Case Study for the Forecasting of Heat Waves. Proc. Fourth International Conference on Control, Automation and Information Sciences (ICCAIS 2015), Changshu, China, Oct 29-31, 2015, 149-152 pp, doi: 10.1109/ICCAIS.2015.7338651
7. Zubov Dmytro. Cloud Computation and Google Earth Visualization of Heat/Cold Waves: A Nonanticipative Long-Range Forecasting Case Study. arXiv.org, Dec 2015, <http://arxiv.org/abs/1512.06017>
8. Godfrey Onwubolu, Alexandr Kiryanov, Oleksiy Koshulko, Anatoliy Koshulko, Alexander Tyryshkin, Anatoliy Andrakhanov, Andrey Orlov, Lyudmyla Sarycheva, Alexander Sarychev, Oleksii Oliinyk, Sergey Subbotin, Andrii Oliinyk, Dmytro Zubov, Saeed Fallahi, Meysam Shaverdi, Vahab Bashiri. GMDH-Methodology and Implementation in C. Ed. by Godfrey Onwubolu, World Scientific Publishing Company, 2015, 300 p.
9. Zubov D. Global Scale Long-Term Forecasting System for Air Temperature Heat/Cold Waves’ Emergency Management: Internet’s Free Data Resources and Early Warning. Proc. Int. Conf. Social Media in Academia: Research and Teaching SMART-2014, Sept 18-21, 2014, Timișoara, Romania, MEDIMOND Publishing Company, 2015, pp 145-152.
10. Dmytro Zubov, Humberto A. Barbosa, Gregory S. Duane. A Nonanticipative Analog Method for Long-Term Forecasting of Air Temperature Extremes. arXiv.org, Jul 2015, <http://arxiv.org/abs/1507.03283>
11. Gjurcheski, I., Zubov, D. Quantum-Inspired Algorithm for the Assessment of Spacecraft Fire Safety. Proc. Conf. “Computer Intelligent Systems and Networks”, Ukraine, Mar 24-26, 2015, pp 133-137, doi: 10.13140/RG.2.1.2038.5126
12. Zubov, D. Cloud Computation of Nonanticipative Analogs for Heat/Cold Waves Teleconnections. European Cooperation J., 2015, N 1, pp 84-94.
13. Zubov, D. Cross-Vitagen Educational Paradigm – from Lessons to Final Exam. Journal of Engineering & Technology Education, 2014, Vol. 8, N 1, pp 1-5.
14. Grujoski, V., Zubov, D. ASCII Art Steganography. ASP.NET Web-based Case Study. Proc. Conf. “Computer Science for the Information Society”, Ukraine, Dec 23, 2014, pp 57-64.
15. Grujoski, V., Talevski, V., Zubov, D. Microsoft Private Cloud Virtual Machine Logical Processors Settings’ Relative Weight Calculation Using Fuzzy Logic. Proc. Conf. “Computer Intelligent Systems and Networks”, Ukraine, Mar 25-27, 2014, pp 106-111, doi:



10.13140/RG.2.1.1538.8002

16. Zubov, D. Average Daily Air Temperature's Long-Range Forecast Using Inductive Modeling and Satellite Datasets. Proceedings of joint 2013 EUMETSAT Meteorological Satellite and 19th American Meteorological Society Satellite Meteorology, Oceanography, and Climatology Conferences, Vienna, Austria, 16-20 Sept 2013, available online:

www.eumetsat.int/website/home/News/ConferencesandEvents/DAT_2027670.html

17. Zubov, D., Osypenko, V. "Exam as Additional Training" Concept: Two Semesters Experience of the Special Test Software's Implementation. Horizons Journal, 2013, Vol. 11, Jun 2013, pp 53-61.

18. Zubov, D., Kuipo Kibinde Jude. Developing Cloud Computing's Novel Computational Methods for Improving Long-Range Weather Global Forecast. Proc. Conf. "Computer Intelligent Systems and Networks", Ukraine, Mar 19-21, 2013, pp 146-150.

19. Zubov, D. Developing Cloud Computing's Novel Computational Methods for Improving Long-Term Weather Global Forecast. Yearbook of the Faculty of Computer Science, Goce Delchev University – Stip, Vol. 1, N 1 (2012), pp 7-16.

20. Zubov, D., Rechkoska Shikoska Ustijana, Zharikov, E., Arburim Iseni. Science and University Education: One Subjective Point of View about Foreign Teachers. ANGLISTICUM, Vol. 1, N. 2, 2012, pp 31-36.

21. Zubov, D., Dimitrievski, I. Weather Forecast Web-Site weatherforecast.tk : History and Development Perspectives. Proc. Conf. "ICT Innovations", Macedonia, Ohrid, Sept 12-15, 2012, pp 557-562.

22. Zubov, D., Karaulia, D.S. Representative System and Wave-Pedagogy Aspects of Vitagen Education. Journal of Engineering & Technology Education, 2011, Vol. 5, N 1, pp 1-4.

23. Zubov, D.A., Karaulia, D.S. Severe Climate Events' Inductive Forecast Using Global Data (Air Temperature Example). V. Dahl EUNU Journal, 2011, N 3(157), pp 82-93.

24. Zubov, D.A. Development of Web Application Structure for Weather Inductive Forecast. Proc. of the 4th International Workshop on Inductive Modeling (ICIM'2011), Kyiv, Ukraine, Jul 4-11, 2011, pp 123-127.

26. Zubov, D.A. Scientific Management as Effective Method for the Scientific Grant Search. Proc. of the 6th Ukrainian Conf. "Up-to-date scientific problems and their solution" Ternopil, Ukraine, 2011, pp 38-38.

28. Zubov, D.A. Cloud Computing Technology's Implementation in Hydrometeorological Calculations with High Computational Complexity. Proc. Conf. "Up-to-date IT in science, education, and economics", Luhansk, 2011, pp 55-58.

29. Zubov, D., Ulshin, V., Gorbunov, A. Analogue Complexing Algorithm's Usage in Data Mining. Journal of Commission of Motorization and Power Industry in Agriculture, Lublin University of Technology, V. Dahl East Ukrainian National University, 2010, Vol. XD, pp 81-90.

30. Zubov, D.A., Ulshin, V.A., Osypenko, V.V. Short Practical Course of the Data Encode-Decode Methodology (Three Ukrainian Universities Experience). Journal of Engineering & Technology Education, 2010, Vol. 4, N 2, pp 1-6.

31. Ulshin, V., Zubov, D., Gorbunov, A. Concept of the Small Pieces Building Production's Automation. Commission of Motorization and Power Industry in Agriculture, Lublin University of Technology, V. Dahl East Ukrainian National University, 2010, pp 275-288.

32. Zubov, D.A. Inductive Empiric Concept of the Large Complicated Systems' Nonlinear Wave Progress (Social Processes Example - Political, Motivation and Education Aspects). Journal "Complicated systems' inductive modeling", 2010, N 2, pp 75-79.

33. Zubov, D.A., Osypenko, V.V. Inductive Analytical Design of Complicated Systems Using Alternative Structures' Set in Fuzzy Environment. Proc. of Conf. "Intellectual decision-making systems and the computational intelligence's problems", Vol. 1, Kherson, 2010, pp 117-121.

34. Zubov, D.A. Inductive Forecast of Severe Climate Events Using Global Data (Air Temperature Example). Proc. Conf. "Computer science for the information society", Luhansk, 2010, pp 100-102.

35. Zubov, D.A. One Quantitative Content-Analysis of Two Text Corpuses. Proc. 4th Conf. "Up-to-date development's tendencies in science, education, and economics", Apr 15-17, 2010, Lugansk, Ukraine, pp 41-42.

36. Zubov, D.A., Grigorenko, M.S. Inductive Forecast Subsystem of Autonomous Meteorological



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37. Zubov, D.A. Short Practical Course of the Data Encode-Decode Methodology (Three Ukrainian Universities Experience). Proc. of 4th Conf. "Up-to-date development's tendencies in science, education, and economics", Apr 15-17, 2010, Luhansk, Ukraine, pp 172-174.
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 39. Zubov, D.A., Kilimnik, O.V. Inductive Synergetic Automatic Control of the Coal Flotation Technological Process. Journal "Inductive Modelling of Complicated Systems", 2009, pp 60-73.
 40. Zubov, D. University Specialists Training and Scientific Projects Development Concurrently (One Realization Example). Journal of Engineering & Technology Education, 2009, V.3, N 1 (Jan-Jun), pp 24-28.
 41. Zubov, D.A., Ulshin, V.A., Gorbunov, A.I. Inductive Synergetic Synthesis of Nonlinear Aggregated Regulators. The Mediterranean Journal of Measurement and Control, 2009, Vol. 5, N 3, pp 101-105.
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 46. Zubov, D.A., Ulshin, V.A., Grigorenko, M.S. Long-Term Forecasting of the Month Average Air Temperature Using the Year Cycles (Luhansk Example). Proc. Conf. "Up-to-date technologies in economics, management and education", Moscow, 2008, pp 77-82.
 47. Bodansky, E.V., Zubov, D.A. Modified Self-Adapting Quasi-Direct Automatic Digital Control by MIMO Objects with Linear Model and Delay. V. Dahl EUNU Journal, 2008, N 1(119), pp 11-23.
 48. Zubov, D.A., Grigorenko, M.S. Long-Term Forecasting of the Decade Average Air Temperature Using Polynomial-Harmonic Basis and Well-Conditioned Dataset. V. Dahl EUNU Journal, 2007, Vol. 1, N 11(117), pp 55-61.
 49. Bodansky, E.V., Zubov, D.A. Quasi-Linear Adaptive Automatic Control of MIMO Objects Using Linear Model and Delay. Proc. 5th Conf. "Up-to-date science development", Oct 1-5, 2007, Vol. 9, Bulgaria, Sofia, pp 71-73.
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 54. Taran, T.A., Zubov, D.A. Artificial Intelligence. Theory and application. V. Dahl EUNU Publishing, 2006, 242 p.
 55. Zubov, D.A. Pacification and Synthesis of the Automatic Control Algorithm with Lie Algebra



for One SISO Class of Coal Cleaning Objects. Mineral Dressing, 2006, N 24(65), pp 80-87.

56. Ulshin, V.A., Zubov, D.A. Automatic Control Algorithm for One Class of Nonlinear SISO Objects Using Dynamic Programming Method. Academic Journal of Computer Science and Systems (International Academy, Krivorozhsky Technical University), 2006, N 17-18, pp 78-80.

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Awards

Sept 2016, Jul 2014: Microsoft Azure Research Award
Jun 2016: Certificate of honour: The assistive project for the visually impaired and blind people. El Instituto para Ciegos y Débiles Visuales, San Luis Potosi, Mexico
Apr 2013: Global nominee for the NASA 2013 International Space Apps Challenge
Apr 1999 and Oct 2000: Young scientists special awards from Ukrainian Ministry of Education and Science

