

PERSONAL INFORMATION **Alexey Rolich**

EDUCATION AND RESEARCH

01/12/2024 – 01/12/2025

Researcher (Assegnista di ricerca)

University of Rome "La Sapienza", Rome, Italy

Research project: "LOREN - LOW-delay congestion control for REal-time applications over the iNternet"

Under supervision of Prof. Andrea Baiocchi

01/03/2024 – 28/05/2024

Visiting Researcher

Karlsruhe Institute of Technology (KIT), Karlsruhe, Germany

Cooperative Autonomous Systems research group at Institute for Applied Computer Science and Formal Description Methods of KIT.

Under supervision of Prof. Alexey Vinel.

01/11/2023 – 01/11/2024

Researcher (Assegnista di ricerca)

University of Rome "La Sapienza", Rome, Italy

Research project: "NEW HYBRID APPROACH FOR RESOURCE ALLOCATION FOR 5G NR-V2X SIDELINK"

Under supervision of Prof. Andrea Baiocchi

01/11/2021 – 27/05/2025

PhD student in INFORMATION AND COMMUNICATION TECHNOLOGY (ICT)

University of Rome "La Sapienza", Rome, Italy

Under supervision of Prof. Andrea Baiocchi

Thesis: Age of Information and Persistence Control in 5G NR-V2X Sidelink Communications

Grade: Excellent

05/08/2022 – 04/01/2023

Researcher.

University of Palermo, Palermo, Italy

Project "Support Alerting Early Warning" - SAWE, 2017-NAZ-0118 - CUP: G78I18000960007

Under the supervision of: Prof.ssa Ilenia Tinnirello.

The activity covered by this assignment is to study the possibility of reducing the transmission delay and improving the reliability of message delivery in heterogeneous LoRa-Iridium networks for emergency monitoring scenarios in remote areas by choosing the optimal start time for data transmission in each period. The result of the work consists of a technical report describing the proposed solution and a set of experimental data evaluating the performance of the proposed solution.

01/11/2015 – 01/11/2019

RESEARCHER. LECTURER. PhD in Informatics and Computer Engineering.

National Research University Higher School of Economics, Moscow, Russia

Student identification number: 107724 №4197210

Main field of study for the qualification: **Informatics and Computer Engineering.**

Concentration: **Computer Aided Design.**

01/09/2013 – 11/06/2015 **Master in Computers and IT**

National Research University Higher School of Economics, Moscow, Russia

Master's diploma with honours

Student identification number: 107704 №0001000

Main field of study for the qualification: **Computer and IT.**

Master's degree program: **Information Systems and Computer Networks**

01/09/2008 – 10/07/2013 **Engineer in Computers, Computer Systems and Networks.**

National Research University Higher School of Economics, Moscow, Russia

Diploma with honours

Student identification number: OKC №08697

Main field of study for the qualification: **Computers, Computer Systems and Networks.**

Concentration: **Computer Networks.**

WORK EXPERIENCE

01/02/2020 – 31/12/2021 **Full time Assistant Professor**

NATIONAL RESEARCH UNIVERSITY "HIGHER SCHOOL OF ECONOMICS",
SCHOOL OF COMPUTER ENGINEERING
Tallinskaya st. 34, 123458, Moscow, Russia

• Main Activities and Responsibilities

Teaching in the discipline "Computer Science" and "Engineering Graphics" (seminars and workshops) in the first year of educational programs "09.03.01. Informatics and computer technology", "11.03.02. Infocommunication technologies and communication systems" — more than 120 people per year. Scientific supervision of project, term and diploma theses of students of educational programs "09.03.01. Informatics and computer technology", "11.03.02. Infocommunication technologies and communication systems", "01.03.04 Applied mathematics" — more than 40 people per year.

• Educational Achievements

- Letter of thanks from the Vice-Rector of the Higher School of Economics (June 2019)
- Acknowledgement from the Higher School of Economics (October 2016).
- Laureate of the Golden HSE prize 2013 in the "Silver Nestling" nomination.
- Best Teacher at NRU HSE 2020, 2019, 2018, 2017.
- Group of high professional potential (personnel reserve of the NRU HSE), Category "New teachers under 30" (2017–2018).
- Average student teaching score in the discipline "Computer Science" in 2020-2021: 4.89 / 5.
- Average student teaching score in the discipline "Computer Science" in 2019–2020: 4.94 / 5.
- Average student teaching score in the discipline "Computer Science" in 2018–2019: 4.95 / 5.
- Average student teaching score in the discipline "CAD systems" in 2018–2019: 4.32/5.
- Average student teaching score in the discipline "CAD systems" in 2017–2018: 4.11/5.
- The actual total teaching load in the 2016/2017 academic year is 797.75 hours, the actual classroom load in the 2016/2017 academic year is 315.25 hours.
- The actual total teaching load in the 2017/2018 academic year is 715.5 hours, the actual classroom load in the 2017/2018 academic year is 364 hours.
- The actual total teaching load in the 2018/2019 academic year is 1290.5 hours, the actual classroom load in the 2018/2019 academic year is 391 hours.

- The actual total teaching load in the 2019/2020 academic year is 1013.72 hours, the actual classroom load in the 2019/2020 academic year is 391 hours.
- The actual total teaching load in the 2020/2021 academic year is 892.46 hours, the actual classroom load in the 2020/2021 academic year is 250.7 hours.
- Conducting open lectures and webinars on the topics: "Internet of Things", "Virtual and Augmented Reality", "Additive Technologies", "Methodology of Innovation" — more than 20 lectures from 2016 to 2021.

Business or sector **Research, Education, Expertise**

01/09/2016 – 01/02/2019

Full time ASSISTANT LECTURER IN UNIVERSITY

NATIONAL RESEARCH UNIVERSITY "HIGHER SCHOOL OF ECONOMICS",
SCHOOL OF COMPUTER ENGINEERING
Tallinskaya st. 34, 123458, Moscow, Russia

• **Main Activities and Responsibilities**

Teaching in the discipline "Computer Science" (seminars and workshops) in the first year of educational programs "09.03.01. Informatics and computer technology", "11.03.02. Infocommunication technologies and communication systems" — more than 120 people per year. Scientific supervision of project, term and diploma theses of students of educational programs "09.03.01. Informatics and computer technology", "11.03.02. Infocommunication technologies and communication systems", "01.03.04 Applied mathematics" — more than 40 people per year.

Business or sector **Research, Education, Expertise**

01/09/2013 – 31/12/2021

Half-time LEADING ENGINEER (ACTING LABORATORY HEAD)

NATIONAL RESEARCH UNIVERSITY "HIGHER SCHOOL OF ECONOMICS",
SCHOOL OF COMPUTER ENGINEERING
Tallinskaya st. 34, 123458, Moscow, Russia

• **Main Activities and Responsibilities**

- Leadership of the educational Laboratory of 3D Imaging and Computer Graphics (<https://miem.hse.ru/edu/ce/compgraph/>).
- Monitoring the technical condition of equipment (VR / AR equipment, 3D printers).
- Technical support for the implementation of research and design work of students.
- Demonstration of the technical capabilities of the equipment.
- Interaction with the Information Technologies Department on the provision of software and maintenance of laboratory equipment.
- Perform other work as determined by the management of the Department of Computer Engineering.
- Prototyping and 3D printing as part of the educational process.

• **Achievements in Administrative Activities**

- Author of the master's program "Internet of Things and Cyber-Physical Systems" at the Higher School of Economics. (Work on the methodological support, opening and promotion of the first master's program in Russia "Internet of Things and Cyber-Physical Systems") — 2019.
- Opening and implementation of the IoT Samsung Academy program at MIEM NRU HSE (The annual number of participants is 25 people per year) — 2019–2021 Role: program curator, teacher.
- Curator, head of the methodological commission of the Higher School of Economics and an expert on the jury of the pre-professional Olympiad for schoolchildren (as part of the Moscow Olympiad for schoolchildren) in the areas of "Engineering profile", "IT profile", "Aerospace profile") — 2017–2021.

- Curator, Deputy Chairman of the Methodological Commission of the National Research University Higher School of Economics and an expert of the jury of the All-Russian Olympiad for Schoolchildren "Highest Standard" in the direction of "Electronics and Computing" — 2020–2021.
- Curator, Deputy Chairman of the Methodological Commission of the Higher School of Economics and an expert on the jury of the All-Russian Olympiad for Students "I'm Professional" in the direction of "Internet of Things and Cyber-Physical Systems" — 2018–2021.
- Expert of the jury of the All-Russian competition of studies and projects of schoolchildren "Aerobatics" in the direction of "Technical and engineering sciences" — 2017–2021.
- Expert of the jury of the scientific-practical conference "Engineers of the Future" — 2017–2021.
- Author and teacher of more than 20 educational programs for schoolchildren in the framework of the projects "Engineering class in a Moscow school, IT class in a Moscow school" — 2017–2021.
- Head of the analytical and consulting group for work with applicants at MIEM, NRU HSE (holding open days, advising applicants).
- Curator of the social program Samsung IT School for the development of mobile applications for Android for schoolchildren in grades 8–11 at the Higher School of Economics.

Business or sector **Research, Education, Expertise**

01/09/2019 – 31/12/2021

Half-time Expert

NATIONAL RESEARCH UNIVERSITY "HIGHER SCHOOL OF ECONOMICS",
SCHOOL OF COMPUTER ENGINEERING
Tallinskaya st. 34, 123458, Moscow, Russia

• Main Activities and Responsibilities

- Expert in Laboratory of the Internet of Things and Cyber-physical Systems.
- Conducting scientific research in the field of the Internet of things and cyber-physical systems.
- Review and analysis of the subject area.
- Review and analysis of models, methods, algorithms and tools for solving the problem.
- Development of models, methods and algorithms for solving the problem.
- Simulation and experimental research.

• Research Areas

- Converged Technologies in Industry 4.0. (IoT + VR / AR).
- Energy efficiency of IoT-device interaction.
- Heterogeneous networks using satellite communication channels in the Internet of Remote Things (LoRa-Iridium, etc.)
- Edge/Fog computing.

• Scientific Achievements

- Surcharge for publication in an international peer-reviewed scientific journal (2020–2022).
- Member of the research and educational group of the National Research University Higher School of Economics "Energy-efficient interaction of the Internet of remote things and cyber-physical systems in an undeveloped network infrastructure" 2019, 2020. (application 19-04-022)
- Member of the research and educational group of the National Research University

Higher School of Economics "Development of the foundations of the theory of energy efficient interaction of resource-limited autonomous devices within the paradigm of the Internet of Things" 2017–2018. (application 17-05-0017)

- Member of the research and educational group of the National Research University Higher School of Economics "Theoretical Foundations of Wireless Sensor Networks" 2014–2015, (application 14-05-0064).
- Grant for the winner of the All-Russian competition of youth projects, 2013.
- Grant under the program Participant of the Youth Scientific and Innovative Competition (UMNIK) of the Foundation for Assistance to the Development of Small Forms of Enterprises in the Scientific and Technical Sphere, 2013.
- Grant for the winner of the first stage of the Fourth Open Competition for Innovative Projects of the Program for the Support of Innovative Entrepreneurship of the National Research University Higher School of Economics 2013, 2013.
- Grant for the winner of the second stage of the Fourth Open Competition for Innovative Projects of the Program for the Support of Innovative Entrepreneurship of the National Research University Higher School of Economics 2013, 2013.
- Grant for the winner of the competition. From an initiative to a project of the Higher School of Economics, 2012.

PERSONAL SKILLS

Mother tongue(s) Russian

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	B2	B2	B2	B2	B2
Italian	A2	A2	A2	A2	A2

Denis' School, Moscow, Russia.

Levels: A1/A2: Basic user - B1/B2: Independent user - C1/C2 Proficient user
[Common European Framework of Reference for Languages](#)

Digital skills

1. Simulations and performance analysis
2. MATLAB.
3. ns-3, MoReV2X framework, 5G-LENA, ns3-manet
4. SUMO
5. C# / C++ / C.
6. USRP
7. Python
8. Arduino and Arduino IDE.
9. MS Office – Word, Excel, PowerPoint, Outlook.
10. Google Drive.
11. Work management tools (Trello, Slack).
12. Collaboration Tools (MS Teams, Zoom, Webex, Skype for Business).
13. 3D Printing (Ultimaker S5, Ultimaker S3+, Wanhao Duplicator, Prusa i3, Prism Dual, Picaso 3D-printer).
14. 3D Scanning.
15. Ultimate Cura.
16. Web Development: HTML 5, CSS, JavaScript, PHP, XML, MQTT, DirectIP
17. Knowledge and ability to work with various data types (JSON, GeoJSON, XML, CSV, etc.)
18. TinkerCAD.
19. Soldering and circuit building skills.
20. Basic Unity3D and Unreal Engine.
21. Microcontroller programming (STM32, Raspberry etc)

Social skills and competences	1. Critical thinking (by nature). 2. Cross-cultural communication (since high school). 3. Collaboration (since high school). 4. Active listening (since high school). 5. Accepting & giving constructive feedback (since high school). 6. Open-mindedness (by nature). 7. Team player. Puts the interests of the team above his own (by nature). 8. Love to work with students, provides them with all kinds of help and support, is actively promoting and popularizing scientific and technical activities among university students. (Since university).
Organisational skills and competences	1. Leader (were acquired during working as acting head of 3D-imaging and computer-generated graphics at Higher School of Economics in Moscow). 2. Responsibility. 3. Trustworthiness & Ethics. 4. Fast Decision Making. 5. Results Orientation. 6. Time-management. 7. Project team management skills (10-15 student projects per year). 8. Initiative. 9. Ability to organize and administer educational activities.
Artistic skills and competences	1. Photography. 2. 3D-modeling. 3. Like to write academic texts 4. Skiing and hiking
Other skills and competences	1. Flexibility. 2. Ambitious.
Driver license	No

ADDITIONAL INFORMATION

Publications and articles submitted	H-index: 8 (Google Scholar), 7 (Scopus) Citations: 322 (Google Scholar), 170 (Scopus) • SPIN RISC: 4901-1584 • ORCID: 0000-0001-8699-1084 • ResearcherID: L-6051-2015 • Scopus AuthorID: 57190175037 • Google Scholar: https://scholar.google.com/citations?user=18Cz--AAAAAJ
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Author(s) and title: M. Bied, J. Arockiasamy, A. Comeca, M. Schrapel, V. Yang, A. Rolich, B. Bruno, M. Schwammberger, D. Fiems, A. Vinel, "ROBOPOL: Social Robotics Meets Vehicular Communications for Cooperative Automated Driving"

Language: English

Publication place: IEEE Intelligent Transportation Systems Magazine

Date of publication: 2025 (under review)

Author(s) and title: A. Rolich, M. Yildiz, I. Turcanu, A. Vinel, A. Baiocchi "Ethical V2X: on a Vehicular Communications Protocol to Support a Pre-Crash Harm-Balancing Maneuvering"

Language: English

Publication place: 2025 IEEE IAVVC – International Automated Vehicle Validation Conference

Date of publication: 2025 (accepted)

Author(s) and title: A. Rolich, M. Yildiz, I.Turcanu, A.Vinel, A.Baiocchi "On the Trade-off Between Aol Performance and Resource Reuse Efficiency in 5G NR V2X Sidelink"

Language: English

Publication place: IEEE Vehicular Networking Conference (VNC), Porto, Portugal, 2025, pp. 1-8, doi: 10.1109/VNC64509.2025.11054234.

Date of publication: 2025

Author(s) and title: A. Rolich, M. Yildiz, I.Turcanu, A.Vinel, A.Baiocchi , "Rethinking Persistent Scheduling in 5G New Radio Vehicle-to-Everything Sidelink Communications"

Language: English

Publication place: IEEE Access, doi: 10.1109/ACCESS.2025.3611486

Date of publication: 2025

Author(s) and title: M. Yildiz, A. Rolich, A.Baiocchi, "Two-Stagification": Job Dispatching in Large-Scale Clusters via a Two-Stage Architecture"

Language: English

Publication place: 2025 23rd Mediterranean Communication and Computer Networking Conference (MedComNet), Cagliari, Italy, 2025, pp. 1-6, doi: 10.1109/MedComNet65822.2025.11103543.

Date of publication: 2025

Author(s) and title: M. Yildiz, A. Rolich, A.Baiocchi, "Dispatching Odyssey: Exploring Performance in Computing Clusters under Real-World Workloads"

Language: English

Publication place: 2025 36th International Teletraffic Congress (ITC-36), Trondheim, Norway, 2025, pp. 1-9, doi: 10.23919/ITC-3665175.2025.11078624.

Date of publication: 2025

Author(s) and title: M. Yildiz, A. Rolich, A.Baiocchi, "The Merit of Simple Policies: Buying Performance With Parallelism and System Architecture"

Language: English

Publication place: IEEE INFOCOM 2025 - IEEE Conference on Computer Communications Workshops (INFOCOM WKSHPS), London, United Kingdom, 2025, pp. 1-6, doi: 10.1109/INFOCOMWKSHPS65812.2025.11152765.

Date of publication: 2025

Author(s) and title: A. Zanella, A. Baiocchi, A. Rolich, "Analysis of a Persistent Multi-Channel Slotted ALOHA Protocol Without Acknowledgment"

Language: English

Publication place: 2025 *International Conference on Computing, Networking and Communications (ICNC)*, Honolulu, HI, USA, 2025, pp. 635-641, doi: 10.1109/ICNC64010.2025.10993746

Date of publication: 2025

Author(s) and title: A. Rolich, I. Turcanu and A. Baiocchi, "Aol-Aware and Persistence-Driven Congestion Control in 5G NR - V2X Sidelink Communications"

Language: English

Publication place: 22nd Mediterranean Communication and Computer Networking Conference (MedComNet), Nice, France, 2024, pp. 1-4 doi: 10.1109/MedComNet62012.2024.10578132.

Date of publication: 2024

Author(s) and title: A.Rolich, I.Turcanu, A.Vinel, A.Baiocchi "Understanding the Impact of Persistence and Propagation on the Age of Information of Broadcast Traffic in 5G NR-V2X Sidelink Communications"

Language: English

Publication place: Computer Networks, Elseiver

Date of publication: Volume 248, June 2024

Author(s) and title: A. Ilyin, A. Matinyan, A. Rolich, L. Voskov, "Experimental Evaluation of Iridium Performance under Varying Weather Conditions and Elevation Angles"

Language: English

Publication place: 2024 International Seminar on Electron Devices Design and Production (SED) doi: 10.1109/SED63331.2024.10741060

Date of publication: 2024

Author(s) and title: A. Rolich, I. Turcanu, A. Vinel, A. Baiocchi "Impact of Persistence on the Age of Information in 5G NR-V2X Sidelink Communications"

Language: English

Publication place: 2023 21st Mediterranean Communication and Computer Networking Conference (MedComNet), Island of Ponza, Italy, 2023, pp. 15-24, doi:

10.1109/MedComNet58619.2023.10168874.

Date of publication: 2023

Author(s) and title: A. Ulanov, I. Bolshakov, L. Voskov and A. Rolich, "Experimental LoRa Network Power Consumption Model Using Multi-Hops"

Language: English

Publication place: Moscow Workshop on Electronic and Networking Technologies (MWENT), Moscow, Russian Federation, 2022, pp. 1-7, doi:

10.1109/MWENT55238.2022.9802378.

Date of publication: 2022

Author(s) and title: A. Rolich, A. Ilyin and L. Voskov, "The study of Machine Learning Scenarios for the Internet of Arctic Things"

Language: English

Publication place: Moscow Workshop on Electronic and Networking Technologies (MWENT), Moscow, Russian Federation, 2022, pp. 1-7, doi:

10.1109/MWENT55238.2022.9802182.

Date of publication: 2022

Author(s) and title: L. Voskov, A. Rolich, G. Bakanov and P. Podkopaeva, "Gateway Data Encoding, Packaging and Compression method for heterogeneous IoT-satellite network"

Language: English

Publication place: 2021 XVII International Symposium "Problems of Redundancy in Information and Control Systems" (REDUNDANCY), 2021, pp. 34-38

Date of publication: 2021

Author(s) and title: Aristova U., Rolich A. Y., Staruseva-Persheeva A., Rolich A.O. Digital Museum Transformation: From a Collection of Exhibits to a Gamut of Emotions

Language: English

Publication place: Digital Transformation and Global Society, 5th International Conference, DTGS 2020 Vol. 1242: Communications in Computer and Information Science. Springer, 2020. doi Ch. 1. P. 419-435

Date of publication: 2020

Author(s) and title: Bobkov I., Rolich A., Denisova M., Voskov L. Study of LoRa Performance at 433 MHz and 868 MHz Bands Inside a Multistory Building.

Language: English

Publication place: 2020 Moscow Workshop on Electronic and Networking Technologies (MWENT). IEEE, 2020. P. 1-6.

Date of publication: 2020

Author(s) and title: Smuseva D., Rolich A. Voskov L., Malahov I. Big data, internet of things, augmented reality: Technology convergence in visualization issues.

Language: English

Publication place: CEUR Workshop Proceedings Volume 2416. CEUR Workshop Proceedings, 2019. P. 432-444.

Date of publication: 2019

Author(s) and title: Lyzhin I., Efremov S. G., Rolich A., Voskov L., Abrameshin D. Development of an Educational Kit for Learning IoT.

Language: English

Publication place: Journal of Physics: Conference Series. 2019. Vol. 1163. P. 1-5.

Date of publication: 2019

Author(s) and title: Ivan Lysogor, Voskov L., Rolich A., Efremov S. G. Energy efficient method of data transmission in a heterogeneous network of the Internet of things for remote areas..

Language: English

Publication place: 2019 International Siberian Conference on Control and Communications (SIBCON). Proceedings. Tomsk : Tomsk State University of Control Systems and Radioelectronics (TUSUR), 2019. P. 1-6.

Date of publication: 2019

Author(s) and title: Ivan Lysogor, Voskov L., Rolich A., Efremov S. G. Study of Data Transfer in a Heterogeneous LoRa-Satellite Network for the Internet of Remote Things

Language: English

Publication place: Sensors. 2019. Vol. 19. No. 15. P. 1-17.

Date of publication: 2019

Author(s) and title: Chuvaldin, N., Belogurov, B., Rolich, A., Motajlenko, I. Study of energy harvesting using high frequency emitting for IoT.

Language: English

Publication place: 2019 International Seminar on Electron Devices Design and Production (SED). IEEE, 2019. P. 1-6.

Date of publication: 2019

Author(s) and title: Trubochkina N. K., Rolich A. Ju. «Metodika sozdaniya fraktal'nogo stereokontenta dlja avtonomnyh shlemov virtual'noj real'nosti».

Language: Russian

Publication place: Zapis' i vosпроизvedenie ob#jomnyh izobrazhenij v kinematografe, nauke, obrazovanii i v drugih oblastjakh: XI Mezhdunarodnaja nauchno-prakticheskaja konferencija, Moskva, 18–19 aprelja 2019 g.: Materialy i doklady. M. : IPP «KUNA», 2019. Gl. 9. S. 109-124.

Date of publication: 2019

Author(s) and title: Fakhrazeev A., Rolich A., Voskov L. Big telemetry data processing in the scope of modern Internet of Things.

Language: English

Publication place: 2018 Moscow Workshop on Electronic and Networking Technologies (MWENT). Proceedings. M. : IEEE, 2018. P. 1-4.

Date of publication: 2018

Author(s) and title: Rolich A., Polyakov E. V., Voskov L., Mazhanov M., Kachalova M., Polyakov S. Investigation and development of the intelligent voice assistant for the Internet of Things using machine learning.

Language: English

Publication place: 2018 Moscow Workshop on Electronic and Networking Technologies (MWENT). Proceedings. M. : IEEE, 2018. P. 1-5

Date of publication: 2018

Author(s) and title: Smuseva D., Rolich A. Research and software development using AR technology

Language: English

Publication place: Journal of Physics: Conference Series. 2018. No. 1050. P. 1-13.

Date of publication: 2018

Author(s) and title: Aristova U., Rolich A., Staruseva-Persheeva A., Zaitseva A.O. The Use of Internet of Things Technologies Within The Frames of The Cultural Industry: Opportunities, Restrictions, Prospects.

Language: English

Publication place: Digital Transformation and Global Society. Third International Conference, DTGS 2018, St. Petersburg, Russia, 2018, Revised Selected Papers. Part II. Communications in Computer and Information Science 859 / Ed. by D. A. Alexandrov, A. V. Boukhanovsky, A. V. Chugunov, Y. Kabanov, O. Koltsova. Issue 859. Springer, 2018.

Date of publication: 2018

Author(s) and title: Rolich A. Ju., Zajceva A. O. GRAFICHESKIE INTERFEJSY V INTERNETE VESHHEJ

Language: Russian

Publication place: Mezhvuzovskaja nauchno-tehnicheskaja konferencija studentov, aspirantov i molodyh specialistov im. E.V. Armenskogo / Pod obshh. red.: A. N. Tihonov, S. A. Aksenov, U. V. Aristova, A. A. Elizarov, V. P. Kulagin, Ju. L. Leohin, A. B. Los', I. S. Smirnov, N. S. Titkova. M. : MIJeM NIU VShJe, 2017. S. 478-479.

Date of publication: 2017

Author(s) and title: Kazakov V. V., Rolich A. Ju. Sistema upravlenija mediakontentom na baze zerkala s ispol'zovaniem dopolnennoj real'nosti v ramkah koncepcii interneta veshhei.

Language: Russian

Publication place: Sistemnyj administrator. 2017. № 5. S. 91-95.

Date of publication: 2017

Author(s) and title: Gimashev L., Kirillovyh, A., Rolich, A. Information systems for practice works on electrical engineering using augmented reality.

Language: English

Publication place: Actual Problems of System and Software Engineering 2017. Proceedings of the 5th International Conference on Actual Problems of System and Software Engineering Supported by Russian Foundation for Basic Research. Project #17-07-20565 Moscow, Russia, November 14-16, 2017, 408 P. / Ed. by A. R. Cavalli, Alexander Petrenko, Boris Pozin. Vol. 1989. Aachen : CEUR Workshop Proceedings, 2017. P. 157-162.

Date of publication: 2017

Author(s) and title: Smuseva D., Rolich A., Malahov I., Zaiseva A.O. SOFTWARE DEVELOPMENT FOR PRESCHOOL EDUCATION USING AUGMENTED REALITY ALGORITHMS.

Language: English

Publication place: Information Innovative Technologies: Materials of the International scientific – practical conference / Ed. by S. U. Uvaysov, I. Ivanov. M. : Association of graduates and employees of AFEA named after prof. Zhukovsky, 2017. P. 548-553.

Date of publication: 2017

Author(s) and title: Rolich A. Dynamic reconfiguration of the graphical interfaces for Internet of Things

Language: Russian

Publication place: 2016 International Siberian Conference on Control and Communications (SIBCON). Proceedings. M. : HSE, 2016. P. 7491841-1-7491841-3.

Date of publication: 2016

Author(s) and title: A.O. Zaitseva, K.A. Deryabina, A.Y. Rolich. The development of mobile applications for the capturing and visualization of stereo and spherical panoramas

Language: English

Publication place: 2016 Third International Conference on Digital Information Processing, Data Mining, and Wireless Communications (DIPDMWC). M. : IEEE, 2016. P. 324-326

Date of publication: 2016

Author(s) and title: Rolich A. Ju. Model' dinamicheskogo rekonfiguriruemogo interfejsa internet-veshhi na mobil'nom ustrojstve

Language: Russian

Publication place: Nauchno-tehnicheskaja konferencija studentov, aspirantov i molodyh specialistov NIU VShJe im. E.V. Armenskogo. Materialy konferencii / Pod obshh. red.: A. N.

Tihonov, S. A. Aksenov, U. V. Aristova, L. N. Kechiev, V. P. Kulagin, Ju. L. Leohin, A. B. Los', I. S. Smirnov, N. S. Titkova. M. : MIJeM NIU VShJe, 2016. S. 68-69.

Date of publication: 2016

Author(s) and title: Rolich A. Ju., Derjabina K. A., Kovalev A. V. Primenenie CAVE-sistem dlja povyschenija kachestva vysshego obrazovanija

Language: Russian

Publication place: Virtual'naja i dopolnennaja real'nost'-2016: Sostojanie i perspektivy. M. : GPBOU MGOK, 2016. S. 283-288.

Date of publication: 2016

Author(s) and title: Bekoev B. G., Zajceva A. O., Rolich A. Ju. Razrabotka dinamicheskij konfiguriruemogo jadra trjohmernogo interfejsa s jelementami estestvennogo cheloveko-mashinnogo vzaimodejstvija (NUI)

Language: Russian

Publication place: Virtual'naja i dopolnennaja real'nost'-2016: Sostojanie i perspektivy. M. : GPBOU MGOK, 2016. S. 47-52.

Date of publication: 2016

Author(s) and title: Rolich A. Ju., Lyzhin I. G. Integracija tehnologij besprovodnoj peredachi jenergii v programmnoapparatnyj kompleks "Obshhestvennaja rozетка"

Language: Russian

Publication place: Nauchno-tehnicheskaja konferencija studentov, aspirantov i molodyh specialistov NIU VShJe im. E.V. Armenskogo. Materialy konferencii / Pod obshh. red.: A. N. Tihonov, V. N. Azarov, U. V. Aristova, M. V. Karasev, V. P. Kulagin, Ju. L. Leohin, B. G. L'vov, N. S. Titkova, S. U. Uvajsov. M.: MIJeM NIU VShJe, 2015. S. 292-293.

Date of publication: 2015

Author(s) and title: Rolich A. Ju. Razrabotka i issledovanie modelej, metodov i algoritmov dinamicheskij rekonfiguracii interfejsov internet-veshhej

Language: Russian

Publication place: Sbornik tezisov uchastnikov foruma «Nauka budushhego — nauka molodyh» T. 1. M. : Inkonsalt K, 2016. S. 262-265.

Date of publication: 2016

Author(s) and title: Fahrazeev A. R., Shherbakov G. P., Rolich A. Ju., Efremov S. G., Voskov L. S. Sistema distancionnogo upravlenija i sbora dannyh dlja provedenija laboratornyh praktikumov v ramkah koncepcii Promyshlennogo Interneta veshhej

Language: Russian

Publication place: Sbornik trudov XV mezhdunarodnoj konferencii NIDays 2016. M. : DMK-press, 2016. S. 444- 446.

Date of publication: 2016

Author(s) and title: Rolich A. Ju. Avtomatizacija proektirovanija pol'zovatel'skih interfejsov internet veshhej

Language: Russian

Publication place: Nauchno-tehnicheskaja konferencija studentov, aspirantov i molodyh specialistov NIU VShJe im. E.V. Armenskogo. Materialy konferencii / Pod obshh. red.: A. N. Tihonov, V. N. Azarov, U. V. Aristova, M. V. Karasev, V. P. Kulagin, Ju. L. Leohin, B. G. L'vov, N. S. Titkova, S. U. Uvajsov. M.: MIJeM NIU VShJe, 2015. S. 107-108.

Date of publication: 2015

Author(s) and title: Rolich A. Ju., Lyzhin I. G. Integracija tehnologij besprovodnoj peredachi jenergii v programmnoapparatnyj kompleks "Obshhestvennaja rozетка"

Language: Russian

Publication place: Nauchno-tehnicheskaja konferencija studentov, aspirantov i molodyh specialistov NIU VShJe im. E.V. Armenskogo. Materialy konferencii / Pod obshh. red.: A. N. Tihonov, V. N. Azarov, U. V. Aristova, M. V. Karasev, V. P. Kulagin, Ju. L. Leohin, B. G. L'vov, N. S. Titkova, S. U. Uvajsov. M.: MIJeM NIU VShJe, 2015. S. 292-293.

Date of publication: 2015

Author(s) and title: Rolich A. Ju., Martjukova E. S., Arzamasova A. I. Internet veshhej: aktual'nost', reshenija, problematika

Language: Russian

Publication place: Nauchno-tehnicheskaja konferencija studentov, aspirantov i molodyh specialistov NIU VShJe im. E.V. Armenskogo. Materialy konferencii / Pod obshh. red.: A. N.

Tihonov, V. N. Azarov, U. V. Aristova, M. V. Karasev, V. P. Kulagin, Ju. L. Leohin, B. G. L'vov, N. S. Titkova, S. U. Uvajsov. M.: MIJeM NIU VShJe, 2015. S. 140-142.

Date of publication: 2015

Author(s) and title: Rolich A. Ju. Postroenie modeli predmetnoj oblasti dinamicheski rekonfiguriruemih interfejsov internet - veshhej

Language: Russian

Publication place: Sbornik nauchnyh statej Vserossijskoj molodezhnoj shkoly seminarov «Aktual'nye problemy informacionnyh tehnologij, jelektroniki i radiotekhniki - 2015» (ITJeR - 2015). Taganrog : Izd-vo NOC ZIS KT Juzhnogo federal'nogo universiteta, 2015. S. 234-240.

Date of publication: 2015

Author(s) and title: Rolich A. Ju. Programmnyj konstruktor dinamicheskix pol'zovatel'skix interfejsov dlja Internet veshhej

Language: Russian

Publication place: Kachestvo. Innovacii. Obrazovanie. 2015. № 4. S. 50-59.

Date of publication: 2015

Author(s) and title: Bajbikova T. N., Rolich A. Ju. Analiz metodov, algoritmov i sredstv redaktirovanija komp'juternoj grafiki.

Language: Russian

Publication place: Nauka v sovremennom mire. Materialy IV Mezhdunarodnoj nauchno-prakticheskoj konferencii (5 janvarja 2011 g.): Sbornik nauchnyh trudov. / Pod obshh. red.: G. F. Grebenshnikov. M. :Sputnik+, 2011

Date of publication: 2011

Author(s) and title: Rolich A. Ju. Avtomatizacija raspredelenija grantovyh sredstv vntri nauchno-uchebnoj gruppy

Language: Russian

Publication place: Inzhiniring Tehno 2014. Sbornik trudov II Mezhdunarodnoj Nauchno-prakticheskoj konferencii 30 ijunja-1 ijulja 2014 g. T. 1. Saratov : Izdatel'skij dom "Rajt-Jekspo", 2014. S. 172-178.

Date of publication: 2014

Author(s) and title: Rolich A. Ju. Analiz rynka avtomatizirovannyh sistem dlja obespechenija pol'zovatelej dostupom k jelektroenergii v obshhestvennyh mestah

Language: Russian

Publication place: Kachestvo. Innovacii. Obrazovanie. 2014. № 6. S. 50-58.

Date of publication: 2014

Author(s) and title: Integracija sistemy billinga v programmno-apparatnyj kompleks 'Obshhestvennaja rozетка'

Language: Russian

Publication place: Nauchno-tehnicheskaja konferencija studentov, aspirantov i molodyh specialistov NIU VShJe. Materialy konferencii / Pod obshh. red.: A. N. Tihonov, V. N. Azarov, U. V. Aristova, M. V. Karasev, V. P. Kulagin, Ju. L. Leohin, B. G. L'vov, N. S. Titkova. M. : MIJeM NIU VShJe, 2014. S. 277-278.

Date of publication: 2014

Author(s) and title: Rolich A. Ju. Proektirovanie jenergojeffektivnyh pol'zovatel'skix interfejsov internet-veshhej

Language: Russian

Publication place: Nauchno-tehnicheskaja konferencija studentov, aspirantov i molodyh specialistov NIU VShJe. Materialy konferencii / Pod obshh. red.: A. N. Tihonov, V. N. Azarov, U. V. Aristova, M. V. Karasev, V. P. Kulagin, Ju. L. Leohin, B. G. L'vov, N. S. Titkova. M. : MIJeM NIU VShJe, 2014. S. 50-51.

Date of publication: 2014

Author(s) and title: Dvornikov A. A., Rolich A. Ju., Volkov I. Ju. Ustrojstvo kontrolja dostupa k jelektroseti v obshhestvennyh mestah s podderzhkoj tehnologii kommunikacii blizhnego polja

Language: Russian

Publication place: Nauchno-tehnicheskaja konferencija studentov, aspirantov i molodyh specialistov NIU VShJe. Materialy konferencii / Pod obshh. red.: A. N. Tihonov, V. N. Azarov,

U. V. Aristova, M. V. Karasev, V. P. Kulagin, Ju. L. Leohin, B. G. L'vov, N. S. Titkova. M. : MIJeM NIU VShJe, 2014. S. 219-220.

Date of publication: 2014

Author(s) and title: Rolich A. Ju. Graficheskij konstruktor pol'zovatel'skih interfejsov dlja Web'a veshhej

Language: Russian

Publication place: Distributed computer and communication networks: control, computation, communications (DCCN-2013). M. : Tehnosfera, 2013. S. 294-303.

Date of publication: 2013

Author(s) and title: Rolich A. Ju. Integracija tehnologii kommunikacii blizhnego polja v programmno-apparatnyj kompleks "Obshhestvennaja rozетка"

Language: Russian

Publication place: XXI Mezhdunarodnaja studencheskaja shkola-seminar «Novye informacionnye tehnologii». Tezisy dokladov / Otv. red.: A. N. Tihonov, V. N. Azarov, Ju. L. Leohin, N. S. Titkova, S. S. Fomin. M. : MIJeM NIU VShJe, 2013. S. 277-278.

Date of publication: 2013

Author(s) and title: Rolich A. Ju. Konstruktor pol'zovatel'skih interfejsov dlja Web'a veshhej

Language: Russian

Publication place: XXI Mezhdunarodnaja studencheskaja shkola-seminar «Novye informacionnye tehnologii». Tezisy dokladov / Otv. red.: A. N. Tihonov, V. N. Azarov, Ju. L. Leohin, N. S. Titkova, S. S. Fomin. M. : MIJeM NIU VShJe, 2013.

Date of publication: 2013

Author(s) and title: Bajbikova T. N., Rolich A. Ju. Analiz metodov, algoritmov i sredstv redaktirovaniya komp'juternoj grafiki.

Language: Russian

Publication place: Nauka v sovremennom mire. Materialy IV Mezhdunarodnoj nauchno-prakticheskoy konferencii (5 janvarja 2011 g.): Sbornik nauchnyh trudov. / Pod obshh. red.: G. F. Grebenshnikov. M. : Sputnik+, 2011

Date of publication: 2011

Honours and awards

Best papers award:

- Mario Gerla Best Paper Award for the paper titled "Impact of Persistence on the Age of Information in 5G NR-V2X Sidelink Communications" presented on MedComNet 2023, the 21st Mediterranean Communication and Computer Networking Conference.
- 3rd prize for the most innovative PhD Thesis presented on COST CA20120 - INTERACT Training School: DoCom 2023 - Summer School & Workshop on Radio Communications

Personal research grants:

- Participation in project "Modeling and optimization of sidelink communications in C-V2X 5G NR", research grant RP123188F68315A5 "Research Projects (Small, Medium) - Small Projects", University of Rome "La Sapienza", Rome, Italy, 2023-2024 (under supervisor of prof. Andrea Baiocchi).
- Project "Latency reduction of mode switching for modes 3 and 4 in C-V2X", research grant AR12218167924C66 "Projects for Starting Research - Type 1", University of Rome "La Sapienza", Rome, Italy, 2022-2023.
- Surcharge for publication in an international peer-reviewed scientific journal (2020-2022)
- Research grant of Higher School of Economics: "Young Faculty Support Program (Group of Young Academic Professionals)", Category "New Lecturers under 30" (2017-2018)
- Personal research grant for the winner of the All-Russian competition of youth projects, 2013
- Personal research grant under the program "Participant of the youth scientific and innovative competition" ("U.M.N.I.K.") of the Russian Fund for Assistance to the Development of Small Forms of Enterprises in the Scientific and Technical Sphere, 2013
- Personal research grant for the winner of the first stage of the Fourth Open Competition for Innovative Projects of the HSE Innovative Entrepreneurship

Support Fund Program - 2013

- Personal research grant for the winner of the second stage of the Fourth Open Competition for Innovative Projects of the HSE Innovative Entrepreneurship Support Fund Program - 2013
- Personal research grant of the winner of the competition "From initiative to project" National Research University Higher School of Economics, 2012

Collective research grants:

- Collective grant from the HSE Science Foundation "Energy-efficient interaction of the Internet of remote things and cyber-physical systems in the conditions of an undeveloped network infrastructure", 2019-2020 (application No. 19-04-022)
- Collective grant from the HSE Science Foundation "Development of the foundations of the theory of energy-efficient interaction of resource-limited autonomous devices within the paradigm of the Internet of Things", 2017-2018 (application No. 17-05-0017)
- Collective grant from the HSE Science Foundation "Theoretical Foundations Energy-Efficient Wireless Sensor Networks of Wireless Sensor Networks", 2014-2015 (application No. 14-05-0064)

Scholarships:

- Nominal scholarship of an outstanding scientist of the National Research University Higher School of Economics named after A.N. Tikhonov in the field of "Materials and technology of electronic equipment. Information and telecommunication systems and technologies. Applied Mathematics and Computer Simulation", 2016
- V. Potanin Charitable Foundation Scholar, 2015
- Scholarship of the President of the Russian Federation, 2014-2016
- Higher School of Economics (HSE) scholarship for high scientific results, 2012-2015

Other University Awards/Degrees (e.g.: awards in competition, second degree):

- Letter of thanks from the Vice-Rector of the Higher School of Economics (June 2019)
- Acknowledgement from the Higher School of Economics (October 2016).
- Laureate of the Golden HSE prize 2013 in the "Silver Nestling" nomination.
- Best Teacher at NRU HSE 2020, 2019, 2018, 2017.
- Winner of the Golden HSE Prize in the category "Graduate Success in Academic Activity", 2018
- Gold medal for participation in the summer school of the V. Potanin charitable foundation, 2017
- Gratitude for help in organizing the final of the series of educational and competitive programs "Hackathon'Design in the cloud environment AutoDesk Fusion 360 '" within the framework of the educational project of the Moscow Department of Education "University Saturdays" and the open International competition of youth projects "Shape the future! - 2016 ", 2016
- Certificate of Participation Third International Conference on Digital Information Processing, Data Mining, and Wireless Communications (DIPDMWC2016), 2016
- Certificate of the winner of the correspondence round and the participant of the full-time round of the II All-Russian scientific forum "Science of the Future - Science of the Young", 2016
- Co-exhibitor of the All-Russian Science Festival Nauka 0+, 2016
- Co-exhibitor of the International Orthodox Student Forum, 2016
- Certificate of the participant of the All-Russian youth conference "Scientific initiatives and innovations for the development of Russian regions", 2015
- Co-exhibitor of the international forum and technology show "Open Innovations", 2015
- Co-exhibitor of the All-Russian Science Festival Nauka 0+, 2015
- Winner of the All-Russian competition of youth projects aimed at the development of the regions of the Russian Federation "PRO: Region - 2015", 2015
- Participant of the I International Scientific Forum of Young Scientists "Science of the Future - Science of Young", 2015
- Gold medal for participation in the summer school of the V. Potanin charitable foundation, 2015
- II-degree diploma for the best scientific and technical work presented at the annual

- scientific and technical conference of students, postgraduates and young specialists of the Higher School of Economics. E.V. Armensky, 2015
- II-degree diploma for the best scientific and technical work presented at the annual scientific and technical conference of students, postgraduates and young specialists of the Higher School of Economics. E.V. Armensky, 2015
 - Gratitude for active participation in the Open Festival of Engineering and Industrial Design "INZHPROMFEST-MEPHI", 2014
 - Diploma for a significant contribution to work with schoolchildren and the development of scientific and technical creativity of youth, 2014
 - Gratitude for participation in the expert assessment of projects of the City competition of engineering student projects for children and youth "From idea to project - 2014", 2014
 - Certificate of a participant in the All-Russian competition of youth copyright projects aimed at the socio-economic development of Russian territories "My country is my Russia", 2014
 - Certificate of the participant of the exhibition of developments of young scientists at the forum of young scientists U-NOVUS Tomsk, 2014
 - Gratitude for active participation in the exhibition at the stand of the Assistance Fund in the framework of the I Youth Forum "Youth of Russia", 2014
 - I degree diploma for the best scientific and technical work presented at the annual scientific and technical conference of students, graduate students and young specialists of the Higher School of Economics, 2014.
 - Diploma of the laureate of the Golden HSE Prize in the Silver Nestling nomination, 2013
 - I degree diploma of the winner of the competition of scientific research works of graduate students in the direction of "Business Informatics", 2013
 - Winner's Diploma of the Fourth Open Competition for Innovative Projects of the Program "Fund for Support of Innovative Entrepreneurship" of the National Research University Higher School of Economics-2013, 2013
 - Diploma for the best project in the field of energy efficiency and energy saving in the electric power industry within the framework of the All-Russian competition "Youth ideas and projects aimed at improving energy efficiency and energy saving", 2013
 - Diploma NTTM 2013 for the project presented at the exhibition, 2013
 - Diploma for the best scientific and technical work presented at the XXI International School-Seminar "New Information Technologies", 2013
 - Diploma of the winner of the regional stage of the competition My country - My Russia, 2013
 - Diploma of the laureate of the competition for the best rationalization proposal in the field of energy saving and energy efficiency among students using information and communication technologies "EnergyIdea" in the nomination "The best rationalization proposal in the field of energy saving and energy efficiency at home", 2013
 - Diploma of the winner of the final round of the UMNİK program of the Foundation for Assistance to Small Innovative Enterprises in Science and Technology, 2013
 - Diploma for the best scientific and technical work at the MIEM conference of the Higher School of Economics, 2013
 - Prize-winner at the Yaroslavl Energy Forum, 2013
 - Certificate of the participant of the exhibition of the II Interstate Forum of the CIS Member States "Health of the population is the basis for the prosperity of the Commonwealth countries", 2013
 - Co-exhibitor at the exhibition Open Innovations, 2012

Projects Project: "Software for the study of laboratory work on mechanics in virtual reality"
 Role: Academic advisor
 Year: 2021

Project: "Development of an interactive VR demonstration of the basics of computer networks"
 Role: Academic advisor
 Year: 2021

Project: "Software and hardware complex for the implementation of predictive analytics of the occupancy of garbage containers and management of garbage disposal"

Role: Academic advisor

Year: 2021

Project: "Development of infrastructure for research and implementation of projects in the field of remote Internet of things based on heterogeneous networks LoRa-Iridium"

Role: Academic advisor, Team lead

Year: 2021

Project: "Software emulator for IoT devices"

Role: Advisor

Year: 2021

Project: "Apartment sharing system within the framework of the IoT concept"

Role: Academic advisor

Year: 2021

Project: "Control system of a ground robotic platform in virtual reality"

Role: Academic advisor

Year: 2021

Project: "Remote expert support system using augmented reality using MS Hololens"

Role: Academic advisor

Year: 2021

Project: "VR adaptation of ex-vivo reconstruction of white matter tracts of the brain"

Role: Academic advisor

Year: 2021

Project: "Software for navigation in MIEM HSE using augmented reality"

Role: Academic advisor

Year: 2021

Project: "VR simulator for yachtsmen"

Role: Academic advisor

Year: 2021

Project: "Augmented reality indoor navigation platform"

Role: Academic advisor

Year: 2021

Project: "Development of a banking services management system in virtual reality"

Role: Academic advisor

Year: 2020

Project: "Software agents for interaction of end devices with the cloud platform of the Internet of Things"

Role: Academic advisor

Year: 2020

Project: "Visualization system for data collection and analysis system for digital twins using virtual reality"

Role: Academic advisor

Year: 2020

Project: "Prototype of a registration / tracking system for the location of people at internal corporate events"

Role: Academic advisor
Year: 2020

Project: "Automated system for collecting, processing, executing and tracking 3D printing requests"

Role: Academic advisor
Year: 2020

Project: "Automated testing of the Tinkoff Mobile application"

Role: Academic advisor
Year: 2020

Project: "Development of an electromechanical hand prosthesis using neurointerface technology and a feedback system for use in prosthetics"

Role: Academic advisor
Year: 2020

Project: "VR imaging system for data center"

Role: Academic advisor
Year: 2020

Project: "Heterogeneous data collection system using wireless communication technologies within the framework of the Internet of Things concept"

Role: Academic advisor, Team lead
Year: 2020

Project: "System for monitoring and managing energy consumption of graphical interface elements on mobile devices"

Role: Academic advisor
Year: 2020

Project: "Mathematical modeling of energy consumption of graphical interfaces on mobile devices"

Role: Academic advisor
Year: 2019

Project: "Software for visualizing the operation of antivirus software to protect cyber-physical systems"

Role: Academic advisor
Year: 2019

Project: "Energy-efficient interaction of the Internet of remote things and cyber-physical systems in an undeveloped network infrastructure"

Role: Researcher
Year: 2019 - 2020

Project: "Development of the foundations of the theory of energy-efficient interaction of resource-limited autonomous devices within the paradigm of the Internet of Things"

Role: Researcher
Year: 2017-2018

Project: "Theoretical Foundations Energy-Efficient Wireless Sensor Networks of Wireless Sensor Networks "

Role: Researcher
Year: 2014-2015

Project: "Shared energy consumption system in public places "Public socket"

Role: CEO
Year: 2012-2018

