Curriculum Vitae

PERSONAL INFORMATION

Mykhailyshyn, Roman
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Research ID https://publons.com/researcher/H-4985-2017/
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Date of birth 18.04.1992
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EDUCATION

2018 Ph.D. of Engineering Sciences
"Justification of the Parameters and Orientation Bernoulli Gripping Device of the Manipulator for the Automation of Handling Operations"
Faculty of Applied Information Technologies and Electrical Engineering, Ternopil Ivan Puluj National Technical University, Ukraine,
Supervisor: Savkiv Volodymyr

2014 Master with honour "Automated Systems of Manufacturing Control"
Faculty of Computer Technology, Ternopil Ivan Puluj National Technical University, Ukraine

2013 Bachelor "Automation and Computer-Integrated Technologies"
Faculty of Computer Technology, Ternopil Ivan Puluj National Technical University, Ukraine

CURRENT POSITIONS

2021 Visiting Scholar
Department of Robotics Engineering, Worcester Polytechnic Institute, Massachusetts, USA

2020 Deputy Head of the Department
Department of Automation of Technological Processes and Manufacturing, Faculty of Applied Information Technologies and Electrical Engineering, Ternopil Ivan Puluj National Technical University, Ukraine

2019 Associate Professor
Department of Automation of Technological Processes and Manufacturing, Faculty of Applied Information Technologies and Electrical Engineering, Ternopil Ivan Puluj National Technical University, Ukraine

PREVIOUS POSITIONS

2018 – 2019 Academic
Faculty of Applied Information Technologies and Electrical Engineering, Ternopil Ivan Puluj National Technical University, Ukraine

2016 – 2018 Assistant Professor
Faculty of Applied Information Technologies and Electrical Engineering, Ternopil Ivan Puluj National Technical University, Ukraine

PROFESSIONAL AFFILIATIONS

2021 Expert
Scientific and scientific-technical examination of interim reports of scientific works, scientific-technical developments of young scientists working in universities and SI, belonging to the Ministry of Education and Science section 2 "Modern mechanical engineering, intellectual, "green" and integrated transport; development of nuclear physics, and rocket and space industry, aircraft and shipbuilding, military equipment.

2021 Member
IEEE Robotics and Automation Society

CERTIFICATION COURSES

2020 "Transfer of Technologies and Innovations: European and Ukrainian Experience" - Jean Monnet 611679-EPP-1-2019-1-UA-EPPJMO- MODULE "European Experience in Technology Transfer for Ukrainian Universities"/ EXTECH

2020 "Python Programming" - Bioinformatics Institute

2020 "Transition to Cloud-Based Fusion 360" - Autodesk Authorized Training Center MUK-COMPUTERS LLC

2018 "Computer technology in the organization of the educational process and distance learning" - Ternopil Ivan Puluj National Technical University

FELLOWSHIPS AND AWARDS

2021 – 2022 Scholarship (Fulbright Visiting Scholar Program), Department of Robotics Engineering, Worcester Polytechnic Institute, USA

2020 – 2022 Scholarship of the Cabinet of Ministers of Ukraine for Young Scientists, Ukraine

2020 Award of Ternopil City Council in the nomination "Young scientists and researchers", Ukraine

2020 Scholarship (House of Europe, 1 month), National Centre of Robotics, Slovak Republic

2019 Scholarship (Erasmus+), Institute of Automation, Robotics and Mechatronics, Technical University of Kosice, Slovak Republic

2018 Award of Ternopil Regional State Administration and Ternopil Regional Council on the occasion of Science Day, Ukraine

2017 Scholarship (SAIA, 1 month), Department of Robotics and Artificial Intelligence, Slovak University of Technology in Bratislava, Slovak Republic

SUPERVISION OF GRADUATE STUDENTS AND POSTDOCTORAL FELLOWS

2018 – 2021 7 master students
Faculty of Applied Information Technologies and Electrical Engineering, Ternopil Ivan Puluj National Technical University, Ukraine

TEACHING ACTIVITIES

2019 Associate Professor – Robotics and Automation, Faculty of Applied Information Technologies and Electrical Engineering, Ternopil Ivan Puluj National Technical University, Ukraine

2018 – 2019 Academic – Robotics and Automation, Faculty of Applied Information Technologies and Electrical Engineering, Ternopil Ivan Puluj National Technical University, Ukraine

2016 – 2018 Assistant Professor – Robotics and Automation, Faculty of Applied Information Technologies and Electrical Engineering, Ternopil Ivan Puluj National Technical University, Ukraine

ORGANISATION OF SCIENTIFIC MEETINGS

2021 Moderator Track 3: Industrial and Power Electronics & Energy Systems (Part 2), IEEE 3rd Ukrainian Conference on Electrical and Computer Engineering (UKRCON).

2019 Member of the Organizing Committee - IV International Scientific and Technical Conference "Theoretical and Applied Aspects of Radio Engineering, Instrumentation and Computer Technology", 200 number of participants, Ukraine

INSTITUTIONAL RESPONSIBILITIES

2021 Member of the Academic Council of the Faculty of Applied Information Technologies and Electrical Engineering, Ternopil Ivan Puluj National Technical University, Ukraine

2020 Deputy Head of the Department of Automation of Technological Processes and Manufacturing, Faculty of Applied Information Technologies and Electrical Engineering, Ternopil Ivan Puluj National Technical University, Ukraine

2020 Deputy Chairman of the Council of Young Scientists and Specialists of the Ternopil Ivan Puluj National Technical University, Ukraine

2018 Secretary of the Scientific and Methodical Council of the Faculty of Applied Information Technologies and Electrical Engineering, Ternopil Ivan Puluj National Technical University, Ukraine

REVIEWING ACTIVITITES

2021 Reviewer Robotics, MDPI

2021 Reviewer Applied Sciences, MDPI

2021 Reviewer Machines, MDPI

2021 Reviewer International Journal of Big Data Intelligence and Applications, IGI Global

2020 Reviewer International Journal of Manufacturing, Materials, and Mechanical Engineering, IGI Global

2019 Reviewer International Conference on Intelligent Energy and Power Systems (IEPS), Institute of Electrical and Electronics Engineers Inc. (IEEE)

2019 Reviewer Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science, SAGE Publishing

2018 Reviewer International Journal of Advanced Robotic Systems, SAGE Publishing

2018 Reviewer IEEE Access, Institute of Electrical and Electronics Engineers Inc. (IEEE)

MAJOR COLLABORATIONS

František Duchoň, Robotics, Department of Robotics and Artificial Intelligence, Slovak University of Technology in Bratislava, Slovak Republic

Ľuboš Chovanec, Robotics, Department of Robotics and Artificial Intelligence, Slovak University of Technology in Bratislava, Slovak Republic

Ivan Virgala, Robotics, Institute of Automation, Robotics and Mechatronics, Technical University of Kosice, Slovak Republic

Erik Prada, Robotics, Institute of Automation, Robotics and Mechatronics, Technical University of Kosice, Slovak Republic

Illia Diahovchenko, Electrical Engineering, Department of Electric Power Engineering, Sumy State University, Ukraine
Jing Xiao, Robotics, Department of Robotics Engineering, Worcester Polytechnic Institute, USA
Minho Jo, Computer Science, Department of Computer Covergence Software, Korea University, Republic of South Korea

DIGITAL SKILLS

Programming - RobotStudio, RAPID, Robot operating system – ROS, Python and other.
CAD/CAM/CAE - ANSYS Workbench, SolidWorks, MathCAD, Kompas, Fusion 360, Cura, 3D Printing and other.

RESEARCH PROJECTS

Managed one state budget research project:

DF 241-18, "*Optimization of design parameters of contactless jet gripping devices of industrial robots*" (2018, № state registration 0118U001798).

Executor of four research projects:

DI 244-20, "*Development of a diagnostic complex based on deep neural networks for the recognition of multiple surface defects of metal structures*" (2020-2022, № state registration 0120U101924);
DI 232-17, "*Development of a new method for technical diagnosis of welds of main gas pipelines based on statistical analysis of their structural heterogeneity*" (2017-2019, № state registration 0117U002245);
VK 55-16, "*Development of models for optimizing the orientation of the industrial robot brush*" (2016-2018, № state registration 0116U005075);
DI 228-16, "*Diagnostic parameters and mechanical aspects of mesoscopic deformation relief formation on the surface of operated steels*" (2016-2018, № state registration 0116U006422).

PUBLICATION TRACK RECORD

Articles:

1. **R. Mykhailyshyn**, V. Savkiv, P. Maruschak, J. Xiao, "A systematic review on pneumatic gripping devices for industrial robots," Transport, in print, 2022. (Scopus, WOS)
2. V. Savkiv, **R. Mykhailyshyn**, P. Maruschak, V. Kyrylovych, F. Duchon, & Ľ. Chovanec Gripping Devices of Industrial Robots for Manipulating Offset Dish Antenna Billets and Controlling their Shape. 2021. Transport. Vol. 36(1). pp. 63-74. doi: 10.3846/transport.2021.14622. (Scopus, WOS)
3. **R. Mykhailyshyn**, V. Savkiv, I. Boyko, E. Prada, & I. Virgala, Substantiation of Parameters of Friction Elements of Bernoulli Grippers With a Cylindrical Nozzle. 2021. International Journal of Manufacturing, Materials, and Mechanical Engineering (IJMMME). Vol. 11(2). pp. 17-39. doi: 10.4018/IJMMME.2021040102. (Scopus, WOS)
4. I. Diahovchenko, M. Kolcun, Z. Čonka, V. Savkiv, **R. Mykhailyshyn**, Progress and Challenges in Smart Grids: Distributed Generation, Smart Metering, Energy Storage and Smart Loads. 2020. Iranian Journal of Science and Technology, Transactions of Electrical Engineering. pp. 1-15. (Scopus, WOS)
5. V. Savkiv, **R. Mykhailyshyn**, F. Duchon, Gasdynamic analysis of the Bernoulli grippers interaction with the surface of flat objects with displacement of the center of mass. 2019. Vacuum. № 159. pp. 524 – 533. (Scopus, WOS)
6. I. Diahovchenko, **R. Mykhailyshyn**, D. Danylchenko, S. Shevchenko, Rogowsky coil applications for power measurement under non-sinusoidal field conditions. Energetika. 2019. №

65(1). pp. 14 – 20. (Scopus)

7. A. Trizuljak, F. Duchoň, J. Rodina, A. Babinec, M. Dekan, **R. Mykhailyshyn**, Control of a small quadrotor for swarm operation. 2019. Journal of Electrical Engineering. Vol. 70(1). pp. 3-15. (IF- 0.205). (Scopus, WOS)

8. V. Savkiv, **R. Mykhailyshyn**, F. Duchon, M. Mikhalishin, Modeling of Bernoulli gripping device orientation when manipulating objects along the arc. International Journal of Advanced Robotic Systems. – 2018. – DOI: 1729881418762670. (Scopus, WOS)

9. V. Savkiv, **R. Mykhailyshyn**, F. Duchon, M. Mikhalishin, Energy efficiency analysis of the manipulation process by the industrial objects with the use of Bernoulli gripping devices. 2017. Journal of Electrical Engineering. № 68 (6). pp. 496 – 502. (Scopus, WOS)

10. V. Savkiv, **R. Mykhailyshyn**, F. Duchon, O. Fendo, Justification of Design and Parameters of Bernoulli-Vacuum Gripping Device. 2017. International Journal of Advanced Robotic Systems. 1729881417741740. (Scopus, WOS)

11. V. Savkiv, **R. Mykhailyshyn**, O. Fendo, M. Mykhailyshyn, Orientation Modeling of Bernoulli Gripper Device with Off-Centered Masses of the Manipulating Object. 2017. Procedia Engineering. № 187. pp. 264 – 271. (Scopus)

Chapers:

12. V. Savkiv, **R. Mykhailyshyn**, P. Maruschak, F. Duchon, Justification of Influence of the Form of Nozzle and Active Surface of Bernoulli Gripping Devices on Its Operational Characteristics. 2020. Lecture Notes in Intelligent Transportation and Infrastructure. pp. 263–272. doi: 10.1007/978-3-030-38666-5_28. (WOS)

13. V. Savkiv, **R. Mykhailyshyn**, P. Maruschak, F. Duchon, O. Prentkovskis, I. Diahovchenko, Analysis of Operational Characteristics of Pneumatic Device of Industrial Robot for Gripping and Control of Parameters of Objects of Manipulation. 2020. Lecture Notes in Intelligent Transportation and Infrastructure. pp. 504–510. doi: 10.1007/978-3-030-38666-5_53. (WOS)

Conference Paper:

14. **R. Mykhailyshyn**, V. Savkiv, F. Duchon, L. Chovanec, Experimental Investigations of the Dynamics of Contactless Transportation by Bernoulli Grippers. 2020. IEEE 6th International Conference on Methods and Systems of Navigation and Motion Control (MSNMC). pp. 97-100. doi: 10.1109/MSNMC50359.2020.9255521. (Scopus, WOS)

15. **R. Mykhailyshyn**, V. Savkiv, M. Mikhalishin, F. Duchon, Experimental Research of the Manipulatiom Process by the Objects Using Bernoulli Gripping Devices. 2017. In Young Scientists Forum on Applied Physics and Engineering, International IEEE Conference. P. 8 – 11. (Scopus, WOS)

16. **R. Mykhailyshyn**, V. Savkiv, F. Duchon, V. Koloskov, I. Diahovchenko, Investigation of the energy consumption on performance of handling operations taking into account parameters of the grasping system. 2018. IEEE 3rd International Conference on Intelligent Energy and Power Systems (IEPS). pp. 295 – 300. (Scopus, WOS)

17. **R. Mykhailyshyn**, V. Savkiv, F. Duchon, V. Koloskov, I. Diahovchenko, Analysis of frontal resistance force influence during manipulation of dimensional objects. 2018. IEEE 3rd International Conference on Intelligent Energy and Power Systems (IEPS). pp. 301 – 305. (Scopus, WOS)

18. **R. Mykhailyshyn**, V. Savkiv, F. Duchon, P. Maruschak, O. Prentkovskis, Substantiation of Bernoulli Grippers Parameters at Non-Contact Transportation of Objects with a Displaced Center of Mass. 2018. 22nd International Scientific Conference Transport Means. pp. 1370 – 1375. (Scopus)

19. **R. Mykhailyshyn**, V. Savkiv, I. Diahovchenko, R. Olsen, D. Danylchenko, Protection of Digital Power Meters Under the Influence of Strong Magnetic Fields. 2019. IEEE 2nd Ukraine Conference on Electrical and Computer Engineering UKRCON-2019. pp. 314 – 320. (Scopus, WOS)

20. **R. Mykhailyshyn**, V. Savkiv, I. Diahovchenko, F. Duchon, R. Trembach, Research of Energy Efficiency of Manipulation of Dimensional Objects With the Use of Pneumatic Gripping Devices. 2019. IEEE 2nd Ukraine Conference on Electrical and Computer Engineering UKRCON-2019. pp. 527 – 532. (Scopus, WOS)

21. V. Savkiv, **R. Mykhailyshyn**, P. Maruschak, I. Diahovchenko, F. Duchon, Ľ. Chovanec, V. Hutsaylyuk, Gripping devices of industrial robots for manipulating offset dish antenna billets. 2020. 13th International Conference on Intelligent Technologies in Logistics and Mechatronics Systems, ITELMS 2020, pp. 71–79. (Scopus)

22. V. Savkiv, **R. Mykhailyshyn**, F. Duchon, V. Medvid, V. Piscio, I. Diahovchenko, Investigation of the Accuracy of the Base of the Object of Manipulation of Bernoulli Gripping Devices. 2021. IEEE 3rd Ukrainian Conference on Electrical and Computer Engineering (UKRCON). pp. 421-425. (Scopus, WOS)

23. I. Belyakova, V. Medvid, V. Piscio, V. Savkiv, **R. Mykhailyshyn**, M. Markovych, Optimization of LED Drivers Depending on the Temperature of Their Operation in Lighting Devices. 2021. IEEE 3rd Ukrainian Conference on Electrical and Computer Engineering (UKRCON). pp. 266-271. (Scopus, WOS)

24. I. Belyakova, V. Medvid, V. Piscio, V. Savkiv, **R. Mykhailyshyn**, M. Markovych, Systems Ignition Device for High-Pressure Gas Discharge Lamps Based on Voltage Piezoelectric Transformer. 2021. IEEE 3rd Ukrainian Conference on Electrical and Computer Engineering (UKRCON). pp. 459-464. (Scopus, WOS)

25. I. Diahovchenko, I. Lebedynskyi, **R. Mykhailyshyn**, V. Savkiv, Methods to Improve the Accuracy of Power Meters through the Application of Nanomaterials and Calibration Techniques. 2019. IEEE 9th International Conference Nanomaterials: Applications & Properties (NAP). pp. 02NEE17-1. doi: 10.1109/NAP47236.2019.216994. (Scopus, WOS)

26. V. Savkiv, **R. Mykhailyshyn**, P. Maruschak, L. Chovanec, E. Prada, I. Virgala, O. Prentkovskis, Optimization of design parameters of Bernoulli gripper with an annular nozzle. 2019. Transport Means - Proceedings of the International Conference. pp. 423-428. (Scopus)

27. V. Savkiv, **R. Mykhailyshyn**, P. Maruschak, F. Duchon, L. Chovanec, The analysis of influence of a nozzle form of the Bernoulli gripping devices on its energy efficiency. 2019. Proceedings of ICCPT 2019. pp. 66–74. doi: 10.5281/zenodo.3387275. (WOS)

28. **R. Mykhailyshyn**, I. Belyakova, V. Medvid, V. Piscio, O. Shkodzinsky, M. Markovych, Usage of Light-Emitting-Diode Lamps in Decorative Lighting. 2019. IEEE 20th International Conference on Computational Problems of Electrical Engineering (CPEE). doi: 10.1109/CPEE47179.2019.8949154. (Scopus, WOS)

Another articles:

29. V. Savkiv, **R. Mykhailyshyn**, V. Piscio, I.Kozbur, F. Duchon, L. Chovanec, Investigation of Object Manipulation Positioning Accuracy by Bernoulli Gripping Devices in Robotic Cells. 2021. Scientific Journal of TNTU (Tern.), Vol. 102 (2). pp. 21–36.

30. **R. Mykhailyshyn**, V. Savkiv, Ya. Prots, Optimization of bernoulli gripping device's orientation under the process of manipulations along direct trajectory. 2016. Scientific Journal of TNTU. Vol. 81 (1). pp. 107 – 117.

31. **R. Mykhailyshyn**, V. Savkiv, Analysis of methods for planning trajectories of manipulators. 2016. Collection of scientific works "Prospective technologies and devices". №8 (1). pp. 61 - 69.

32. V. Savkiv, **R. Mykhailyshyn**, F. Duchon, M. Mikhalishin, Justification of the object of manipulation parameters influence on the optimal orientation and lifting characteristics of Bernoulli gripping device. 2017. Bulletin of Kherson National Technical University. № 2 (61). pp. 98 – 104.

TECHNOLOGY TRANSFER ACTIVITIES IN THE LAST 5 YEARS

At the initiative of Roman Mykhailyshyn, an agreement was signed between Ternopil Ivan Puluj National Technical University and IntraMotion Ukraine on the opening of a joint training and research laboratory of Robotics.

1. V. Savkiv, **R. Mykhailyshyn**, Patent 119726 UA, IPC B25J 15/00. Jet gripping device. 10.10.2017.

2. V. Savkiv, **R. Mykhailyshyn**, Patent 119819 UA, IPC B25J 15/00. Contactless jet gripping device. 10.10.2017.

3. V. Savkiv, **R. Mykhailyshyn**, Patent 142749 UA, IPC B25J 15/00. Contactless jet gripping device. 25.06.2020.