

International Competition of Student Scientific Works “Black Sea Science 2024”

1st stage results for the field of “Information Technologies, Automation and Robotics”

| Country | Institution | Work Title | Authors | Supervisors | Score |
|---------|---|---|------------------------------|-----------------------------------|-------|
| Ukraine | Vasyl' Stus Donetsk National University | Classification of rhythmic gymnastics sport elements by video | Neskorodieva Anastasiia | Vietrov Oleh, Shtovba Serhiy | 94,5 |
| Ukraine | Oles Honchar Dnipro National University | Automatic solving of physics word problems | Popov Ruslan | Karpenko Nadiia | 94,0 |
| Ukraine | National Technical University of Ukraine “Igor Sikorsky Kyiv Polytechnic Institute” | The strategy of digital twin implementation at the enterprise during post-war Ukraine reconstruction | Grishyn Kostiantyn | Pankratova Nataliya | 92,5 |
| Ukraine | Kharkiv National Air Force University of Ivan Kozhedub | Software and hardware module for automated detection and recognition of interest objects to increase the level of processing efficiency and reliability of aerial reconnaissance data | Havura Ivan, Vasiekin Dmytro | Tupitsya Ivan, Kryvonos Volodymyr | 92,0 |
| Ukraine | National Technical University of Ukraine “Igor Sikorsky Kyiv Polytechnic Institute” | Automated Detection and Assessment of War-Induced Damage to Agricultural Fields Using Satellite Imagery | Drozd Sofiia | Kussul Nataliia, Yailimova Hanna | 91,5 |
| Ukraine | Vinnitsia National Technical University | Development of anthropometric measurement methods using three-dimensional modeling | Zakharchyk Maksym | Romanyuk Oksana | 89,5 |
| Ukraine | Odesa National Technological University | Addon for blender3d. Automation of the object texturing process | Liskovetskiy Vladislav | Boltach Svitlana | 88,5 |
| Ukraine | State University of Trade and Economics | Development of a web-based system for content exchange | Kushnir Yevhenii | Tomashevskaya Tetyana | 88,5 |
| Ukraine | Ukrainian Academy of Printing | Designing the automated complex for segregated waste gathering of operational printing | Storozhuk Dmytro | Neroda Tetyana | 88,5 |

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| Ukraine | Lutsk National Technical University | A remote control system for a robotic device based on Python programming language using sockets and computer vision | Dovhopoliuk Dmytro | Yashchuk Andrii, Lishchyna Nataliia | 87,0 |
| Ukraine | National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute" | Implementation of innovative Industry 4.0 technologies for the reconstruction of the energy sector of Ukraine | Symonenko Anzhela | Hlushchenko Yaroslava | 86,7 |
| Ukraine | Ivan Kozhedub Kharkiv National Air Force University | Development of a model for determining the priority of air targets based on fuzzy logic | Yaroshchuk Roman | Volkov Andrii | 86,5 |
| Ukraine | Petro Mohyla Black Sea National University | Application for recording sound from the microphone and saving it to a file | Oleksandr Yanovskyi | Kateryna Kirei | 86,3 |
| Oman | University of Technology and Applied Sciences | Securing Organizations and Employees: AI-Powered Cyber Security System for Malware Defense System | Fatima Naif Al Aamri, Malak Sami Hadid Al Aamri | Mr. Rogelio Gutierrez | 86,3 |
| Ukraine | Khmelnytskyi National University | Neural Network Method for Detection of Fake Document Images for Personality Identification Systems | Zharnovskyi Oleksandr | Sobko Olena, Molchanova Maryna | 86,3 |
| Ukraine | Odesa National Technological University | Programmatic solutions for businesses that have multiple accounts | Pohorieltsev Pavlo | Boltach Svitlana | 85,5 |
| Ukraine | Mykolaiv National Agrarian University | Development of voice assistant based on neural systems | Zakharchenko Yevhen, Balyuk Yan | Tyshchenko Svitlana, Zhebko Oleksandr | 85,3 |
| Ukraine | National Technical University Kharkiv Polytechnic Institute | Research on software for detecting structural errors in business process models based on machine learning | Sapozhnykov Illia | Kopp Andrii | 85,0 |
| Ukraine | Vinnitsia National Technical University | Development of a software application based on machine learning for the generation of 3d models of bionic prostheses of lost limbs | Shyndyruk Viktoriia | Voitko Victoria | 84,8 |
| Ukraine | National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute" | Optimization problem for number of logical elements needed to implement multiple boolean functions using decoder | Skopyk Hlib | Onai Mykola | 84,3 |

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| Kazakhstan | Turan University | Development of a computer-based educational program on the subject "fundamentals of computer modeling" | Alimbekova Ayaulym, Gavrilova Anastasiya, Kan Alexandr | Kim Yekaterina | 84,0 |
| Ukraine | Petro Mohyla Black Sea National University | Expanding nasa functionality using its api and improving interest among people in space exploration | Yaroslav Popov | Kateryna Kirei | 83,0 |
| Ukraine | Donbas State Engineering Academy | Application for preliminary diagnosis of dyslexia in children | Hryshchuk Danyil | Melnykov Oleksandr | 83,0 |
| Ukraine | Mykolaiv National Agrarian University | Distributed data analysis as a key tool for processing and analyzing large amounts of information | Yereshchenko Oleksandr, Bugayov Danilo | Tyshchenko Svitlana | 83,0 |
| Ukraine | Donbas State Engineering Academy | Decision support system for detection color determination anomaly | Vladislav Kanishev | Oleksandr Melnykov | 83,0 |
| Ukraine | Kremenchuk Mykhailo Ostrohradskyi National University | Information and analytical system for collecting, processing and analyzing data on air pollution | Zavaliiev Arsentiy, Vadurin Kyrylo | Perekrest Andrii, Bakharev Volodymyr | 83,0 |
| Ukraine | Odesa National University of Technology | Effective automatic control of the energy-saving process of cooking and smoking sausage in the chamber with thermoelectric heat pump | Petrenko Dmytro, Pashkov Serhii | Kovalchuk Dmytro | 83,0 |
| Ukraine | Separated Structural Subdivision «Odesa Technical Professional College of Odesa National University of Technology» | Research of the influence of modern trends in UI/UX design of mobile applications on user's mood | Sichkar Oleksandr, Pyshkin Danylo | Zhadan Artur | 82,7 |
| Ukraine | Lutsk National Technical University | Transliteration Program "CotoGwa" | Lohatskyi Vladyslav, Savluk Maksym, Ryzhok Solomiia | Surynovych Olena, Lishchyna Natalia | 82,5 |
| Ukraine | Uzhhorod National University | The design of the pipelined RISC-V processor with the hardware coprocessor of digital signal processing | Makhrov Valentyn | Hedeon Hanna | 82,5 |

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| Ukraine | Donbas State Engineering Academy | Study of the influence of factors on the incidence and performance of forecasting the change percentage of infected and those carrying the disease of covid-19 in a severe form in the world | Dmitry Kozub | Oleksandr Melnykov | 82,5 |
| Ukraine | Ivan Kozhedub National Air Force University | Improving the efficiency of covering wireless sensor networks based on UAV`s. | Riabkov Vladyslav, Shapovalova Tetiana | Mykhalevskiy Dmytro | 82,0 |
| Ukraine | Sumy State University | Information and software of virtual reality training application "Natural gas dryer plant" | Kuzmuk Danyla | Shovkoplis Oksana, Kuzikov Borys | 81,7 |
| Ukraine | Vinnitsia Mykhailo Kotsiubynskiy State Pedagogical University | Application of the python programming language and arduino robotics kits in the process of training future teachers of computer science | Kyslitsyn Vitalii | Umanetz Volodymyr | 80,7 |
| Ukraine | Kharkiv National Air Force University | Development of mathematical motion model of anti-aircraft shell for self-propelled anti-aircraft gun «gepard» | Danylo Starcev | Stanislav Piskunov | 80,5 |
| Ukraine | Cherkasy State Technological University | A new way of increase the efficiency of the rear wing of a car and new designs for its implementation | Kravchenko Oleksandr | Batrachenko Olexandr | 80,5 |
| Ukraine | Khmelnyskyi National University | Method for Intelligent Analysis of Text Messages Credibility Based on the Ensemble Approach | Shevchuk Pavlo | Molchanova Maryna, Mazurets Oleksandr | 80,3 |
| Ukraine | State Biotechnological University | Results of experimental study of the process of automated measurement of physiological parameters of biological objects | Sukhin Vitaly, Komarychev Oleksiy, Kantemir Veronika | Kosulina Natalia, Shigimaga Victor | 79,7 |
| Ukraine | Mykolaiv National Agrarian University | Photovoltaic helio installation with automatic sun tracking system | Holubiev Volodymyr, Abdullaeva Adzhirie | Koshkin Dmytro, Tyshchenko Svitlana | 79,5 |
| Ukraine | Odesa National University of Technology | Simulation modeling of an asynchronous electric drive of a feed pump with vector control in Matlab-simulink package | Andreshkov Artem | Babich Vladyslav | 79,5 |

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| Ukraine | Private Higher Education Establishment “Academician Stepan Demianchuk International University of Economics and Humanities” | Adaptive computer vision | Vodyanitski Valentin | Yuskovych-Zhukovska Valentyna | 79,5 |
| Bulgaria | SWU”Neofit Rilski”-Blagoevgrad | Cyber security when exchanging biometric and biomedical data | Hristov Hristo | Batalov Filip | 78,7 |
| Ukraine | National Technical University of Ukraine “Igor Sikorsky Kyiv Polytechnic Institute” | Increase of the efficiency of implementation of multiple operations in the redundant numerical system on FPGA in on-line mode | Verbovskiy Illia | Zhabin Valerii | 78,5 |
| Ukraine | Donbas State Engineering Academy | Study of change of forest coverage within Spivakivka village with the help of own development application and Global Forest Watch web application | Denisenko Victoria | Melnykov Oleksandr | 77,5 |
| Ukraine | Petro Mohyla Black Sea National University | Streaming microscopic image data to the cloud storage for detection of acute lymphoblastic leukemia using CNN | Kravchenko Polina | Burlachenko Ivan | 77,0 |
| Ukraine | National Academy of National Guard of Ukraine | Development of the candidates selecting method for education in the master's studies of a military higher educational institution_ | Kuzhelovych Mykyta | Novykova Olena | 77,0 |
| Ukraine | National University “Yuriy Kondratyuk Poltava Polytechnic” | Creation of a web application for investment project risk management based on fuzzy neural networks | Ostrianyn Vadym | Skakalina Olena | 76,8 |
| Ukraine | National University “Yuriy Kondratyuk Poltava Polytechnic” | Creation and research of forecasting models of the spread and consequences of covid-19 | Kornienko Denys | Skakalina Olena | 76,5 |
| Ukraine | Ivan Kozhedub Kharkiv National Air Force University | Development of a mobile application for troubleshooting on-board command ultra-shortwave radios | Kurman Oleksandra | Krasnorutskiy Andrii | 76,0 |
| Ukraine | State University of Trade and Economics | Model of ChatGPT usage to create a chatbot | Buynoza Olena | Ivanova Olena | 75,5 |

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| Ukraine | State university of Trade and Economics | Implementation of artificial intelligence for the restaurant business | Oleshko Sofia | Bovsh Liudmyla | 75,0 |
| Ukraine | National Technical University «Kharkiv Polytechnic Institute» | Advancing synthetic data generation: a flexible pipeline for complex human image scenarios | Romanovych Ihor | Bilova Mariia | 74,7 |
| Ukraine | Odesa National University of Technology | Automation of the bread baking process in a tunnel oven | Aristov Maksym | Zhygailo Oleksii | 74,5 |
| Ukraine | Donbas State Engineering Academy | Forecasting the duration of repair works during water pipe damage in a small city | Zakabula Oleksii | Melnykov Oleksandr | 74,5 |
| Ukraine | Ukrainian State University of Science and Technologies | Automation of environmental risk monitoring and assessment | Zelenko Daria | Horbova Olexandra, Zelenko Yuliia | 74,5 |
| Ukraine | NTUU "Ihor Sikorskyi Kyiv Polytechnic Institute" | Features of siem solutions implementation in state authorities | Iryna Svieshnikova, Volodymyr Mishchenko | Oleksiy Khakhlyuk | 74,5 |
| Ukraine | Vinnitsia Mykhailo Kotsiubynskyi State Pedagogical University | Methodology for training future computer science teachers to teach robotics in vocational education institutions | Rozputnia Bohdan | | 73,5 |
| Ukraine | National University "Odesa Polytechnic" | Web application for control training and nutrition automatization | Pryvalov Andrii | Mykola Rudnichenko | 73,5 |
| Ukraine | O.M.Beketov National University of Urban Economy in Kharkiv | Development of an intelligent information image recognition subsystem | Steshenko Vladlen | Novozhilova Marina | 73,3 |
| Ukraine | National university of food technologies | Creation and research of a mechatronic module for determining the material of plastic bottles in recycling lines | Yakymchuk Yurii, Skopets Vladyslav | Iakymchuk Mykola | 73,0 |
| Ukraine | National Technical University «Kharkiv Polytechnic Institute» | Conscious Consumption: Information System For Efficient Food Storage Controls | Bondarenko Danylo | Liutenko Iryna | 73,0 |
| Ukraine | National University of Water and Environmental Engineering | Practical application of anomalies detection algorithms in the water reservoir monitoring system | Demchuk Iurii | Zhukovska Nataliia, Zhukovskyy Viktor | 72,0 |
| Ukraine | State Biotechnological University | Analysis of emotions in the text | Kolokolnikov Viktor | Chub Iryna, Demchenko Kateryna | 71,7 |

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| Poland | Poznan University of Technology | An Artificial Intelligence-Based Similarity Framework for Comprehensive Habitability Index Calculation of Exoplanets | Ibrahimli Natig | | 71,7 |
| Ukraine | Vasyl' Stus Donetsk National University | Development of an application for generating melodies based on the circle of fifths system | Fedorenko Yevhenii | Sichko Tetiana | 71,5 |
| Ukraine | National University "Yuri Kondratyuk Poltava Polytechnic" | Development of a robotic complex for reconnaissance | Bilokin Oleksandr, Sabelnikov Lavr, Dendeberya Serhiy | Laktionov Oleksandr, Pedchenko Nazar | 70,5 |
| Ukraine | National University «Yuriy Kondratyuk Poltava Polytechnic» | Intelligent control system of greenhouse microclimate parameters | Fenko Denys | Kyslytsia Svitlana | 70,3 |
| Ukraine | Lutsk National Technical University | Information system for forecasting the order of raw materials | Ostapchuk Oleksandr | Zdolbitska Nina | 70,3 |
| Ukraine | Vasyl' Stus Donetsk National University | Application for encoding and decoding text messages | Ovramets Illia, Afanasieva Daria | Zelinska Oksana | 70,0 |
| Ukraine | National university of food technologies | Variational synthesis of a dosing robot manipulator based on augmented reality technology – AR | Yasychev Vladyslav, Yemelianov Dmytro | Krivoplyas-Volodsna Liudmyla | 70,0 |
| Ukraine | Khmelnitsky National University | Information system for the selection of sports based on the analysis of human morphofunctional indicators | Shvaiko Valeriia, Yevdokymova Mariia | Pavlova Olga, Soltyk Oleksandr | 69,7 |
| Ukraine | Kharkiv National Automobile and Highway University | Simulation of the digital system for adjusting the angular position of the manipulator | Stypanovych Mykola, Kuzmynykh Vasyl | Binkovska Anzhela, Ponikarovska Svitlana | 69,3 |
| Ukraine | Industrial professional college of Kryvyi Rih National University | Development of a microprocessor-based system for controlling the led ticker displays on Arduino | Nikitin Roman | Nikitina Hanna | 68,0 |
| Ukraine | Lviv Polytechnic National Univers | Methods for increasing and assessing the efficiency of voltage converters for mobile electronics | Bratiuk Bratiuk | Ozirkovskyi Leonid | 67,5 |
| Ukraine | State Higher Education Institution «Pryazovskyi State Technical University» | A system for measuring applied force and spatial orientation of an oar with Bluetooth communication | Parakhin Ruslan | Levytska Tatiana, Piatykop Olena | 67,5 |

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| Ukraine | National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute" | Model of a cyber defence system for critical information infrastructure facilities | Horyn oleg | Storchak Anton | 67,5 |
| Ukraine | National Technical University «Kharkiv Polytechnic Institute» | Systematization and organisation of information in everyday life and professional spheres using the method of decision-making based on fuzzy inference | Nilova Yelizaveta | Kozulia Mariia | 66,0 |
| Ukraine | Private Higher Education Establishment "Academician Stepan Demianchuk International University of Economics and Humanities" | Voice assistant for a smart home | Orlovskiy Danylo | Yuskovych-Zhukovska Valentyna | 65,7 |
| Ukraine | Professional College of Industrial Automation and Information Technology of Odesa National Technology University | Sustainable and Green IT Practices | Avramenko Oleksandr | Havryliuk Yuliia | 65,0 |
| Ukraine | Vinnitsia Trade and Economic Institute of the State Trade and Economic University | Design of an internet system for ordering and delivery of pizza | Bondarenko Viktoriia | Romanuke Vadim | 64,0 |
| Ukraine | Lutsk National Technical University | Digital rebuild invest | Beraya Dmytro, Zimych Alina | Lukianchuk Iurii, Bagniuk Natalia | 63,7 |
| Ukraine | Sumy National Agrarian University | Migration Of The University Educational Platform To The Cloud Management System | Kovalov Roman | Viunenko Oleksandr | 61,5 |
| Ukraine | Separated structural subdivision "Odesa Technical Professional College of Odesa National University of Technology" | Development of a computer game in the vertical scroll shooter genre and development of criteria for evaluating game projects of this type | Ryaboshapka Darya | Kryvchenko Anastasiia, Dzhabrailov Dmytro | 60,0 |
| Ukraine | State Biotechnological University | Theoretical study of the process of automated measurement of physiological parameters of biological objects | Korshunov Kostiantyn, Maltsev Kiril, Yurkovets Roman | Kosulina Natalia. Chorna Mariya | 59,0 |