

Prof. Evgeny Pashentsev spoke on "Artificial Intelligence and Issues of National and International Psychological Security" at the round table at the Ministry of Foreign Affairs of the Russian Federation

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28 November 2018 at the MFA RF was held a round table "Freedom of Expression in the Digital Environment in the Context of Discussion of International Information Security Issues at Specialized International Platforms". It was organized by the Information and Press Department (IPD) at the MFA RF, MIA "Russia Today" (Rossiya Segodnya), Russian Committee of UNESCO Program "Information for All" and the Interregional Library Cooperation Centre. Two plenary sessions of the round table were held by Peter Lidov-Petrovsky, Director of the Directorate for Communications and Public Relations of MIA "Russia Today" and Maxim Buyakevich, acting. Deputy Director of IPD.



The round table was attended by representatives of the State Duma, the Human Rights Council under the President of the Russian Federation, the Ministry of Digital Development,

Communications and Mass Media of the Russian Federation, The Federal Agency on Press and Mass Communications of the Russian Federation (Rospechat), Civic Chamber of the Russian Federation, the leading Russian media, the expert community and the academic community.

Among the speakers were: Leonid LEVIN, Chairman of the State Duma Committee on Informational Policy, Technologies and Communications; Arseniy NEDIAK, Deputy Director of the Department of State Policy in the Field of Mass Media at the Ministry of Digital Development, Communications and Mass Media of the Russian Federation ; Vladimir PAVINSKY, Deputy Director of the UN Information center in Moscow; Elena SUTORMINA, Chairman of the Commission of the Civic Chamber of the Russian Federation for the Development of Public Diplomacy, Humanitarian Cooperation and Preservation of Traditional Values; Evgeny PASHENTSEV, Professor, leading researcher at the Diplomatic Academy of the MFA RF; Igor BORISOV, member of the Presidential Council of the Russian Federation on Development of Civil Society and Human Rights, Chairman of the Board of the Russian Public Institute of Electoral Law (ROIIP); Evgeny KUZMIN, Chair, Russian Committee of the UNESCO Programme "Information for All", etc.

During the plenary sessions, the following issues were discussed:

- Correlation of interests of national security defence and freedom of expression in the digital environment;
- Models of regulation of information content on the Internet: global trends and the Russian response to them;
- Evolution of national legislation towards the development of sanctions mechanisms for the publication of unreliable content on the Internet: Russian and foreign experience
- Information manipulation: the phenomenon of "fake news" in the digital environment; the responsibility of the media, states and relevant international structures;
- Fact-checking, disclosure of information sources and new challenges in the digital environment;

Dsc., Prof. Evgeny Pashentsev, a leading researcher at the Diplomatic Academy of the Ministry of Foreign Affairs of Russian Federation, Director of the International Centre for Social and Political Studies and Consulting, a coordinator of the EU –Russia Communication Management Network (EU-RU-CM Network) in his speech analyzed new opportunities and new risks for national and international psychological security appeared with quick development of Artificial Intelligence (AI) technologies and markets. Below we present the full text of his speech at the round table.



The possibilities of artificial intelligence and machine learning are growing at an unprecedented speed. These technologies have many extremely important areas of social utility: from machine translation to medical diagnostics. The next years and decades will bring immeasurably more opportunities for such applications. The volume of investment in the field of artificial intelligence in the next two decades could be trillions of dollars. Thus, according to the report of the international company PricewaterhouseCoopers Middle East (PwC), published in Dubai during the World Government Summit, economic growth in the world will be provided by 14% through the use of artificial intelligence, which is equivalent to 15.7 trillion dollars. To the greatest extent the possibilities of AI to accelerate its growth according to the PwC will be able to benefit from China (up 26% of the country's economic growth at the expense of AI)¹. These positive aspects of the use of artificial intelligence are paid attention by research teams in different countries of the world and leading international organizations. According to a new report published by Allied Market Research, titled, Artificial Intelligence Market by Technology and Industry Verticals: Global Opportunity Analysis and Industry Forecast, 2018-2025, the artificial intelligence market accounted for more \$4 billion in 2016, and is expected to reach \$169 billion by 2025.² In 2017, China published its “Next Generation Artificial Intelligence Development Plan”, which laid out plans to become the world leader in artificial intelligence, with a domestic AI industry worth almost US\$150 billion. The plan has three steps: firstly, it must be able to keep pace with all leading AI technology, and its application in general, by 2020. Part two is to make major breakthroughs by 2025, which is intended to lead to the third part of the plan – the establishment of China as the world leader in the AI field by 2030. It is the very ambitious and realistic plan. The first step of it is to catch up with the US on AI technology and applications by 2020. China now is a leader in AI funding. Last year, 48 per cent of total equity funding of AI start-ups globally came from China, compared to 38 per cent funded by the US, and 13 per cent by the rest of the world. This is a significant jump from the 11.3 per cent of global funding China made in 2016³.

¹ See.: Sizing the prize. What's the Real Value of AI for Your Business and How Can you Capitalise? PwC Middle East, 2018. P. 3.

² Sharma K. Artificial Intelligence (AI) Market to Garner \$169,411.8 Million, Globally, by 2025 // Allied Market Research. URL: <https://www.alliedmarketresearch.com/press-release/artificial-intelligence-market.html> (accessed: 01.12.2018).

³ Robles P. China plans to be a world leader in Artificial Intelligence by 2030 // South China Morning Post. 01.10.2018. URL: <https://multimedia.scmp.com/news/china/article/2166148/china-2025-artificial-intelligence/index.html> (accessed: 01.12.2018).

Although the Russian AI market is estimated to be only 0.7% of the world market, it is expected to grow 40 times by 2020. "Estimates of the Russian market are very different: from several hundred million rubles to tens of billions. This spread is primarily due to the fact that most large companies are already implementing projects in the field of AI, but do not yet disclose data on investments and results," – said Dmitry Shushkin, CEO of ABBYY Russia – a leading developer of solutions for intellectual information processing.

Russia has joined recently the creation of international standards in the field of AI⁴. Taking on the challenge of developing AI standards is the new SC 42 Established in October 2017 (Subcommittee 42), which sits under Joint Technical Committee 1 (JTC 1), in turn constituted by two widely respected standards bodies, the International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC). (Its full ISO abbreviated name is thus ISO/IEC JTC 1/SC 42.). With the participation of Russian experts at the first stage, projects of three standards will be developed. This agreement was reached at a meeting of the international Subcommittee on standardization in California.

It is important that our country became a participant in the process at the very beginning. "This is necessary to ensure that the international documents of normative and technical regulation take into account the position of Russia and the interests of our developers. And then it would be easier for us to implement international standards," explained Nikita Utkin, head of the Russian delegation, Chairman of the National Technical Committee for Standardization⁵.

The work of the Centre of the National Technological Initiative in the direction of "Artificial Intelligence" will be conducted in Russia as part of a consortium, the leader of which is MIPT, and among the participants and partners are Skoltech, Higher School of Economics, Innopolis University, Sberbank of Russia, Rosseti, Rostelecom, RZD, ABBYY, etc.

The development of this Centre will take place in the following main areas.

- Conversational artificial intelligence, neural networks, deep machine learning.
- Machine translation, text and speech recognition, linguistic analysis.
- Expert, advisory, information and analytical systems.
- Technical vision, detection, recognition, decoding, image classification, etc.

Much less investigated has been aspects of the malicious use of AI, yet these are important because of the possible global catastrophic consequences of such use⁶. Of particular importance is the use of targeted information and psychological destabilization of political systems, which puts forward new requirements to ensure international security, taking into account the national interests of Russia.

AI is a powerful driver of progressive and at the same time destabilizing changes. In social and technological terms, we will have to reckon with forthcoming realities. The signs of such changes are already noticeable today. According to many recent reports, such as from the UN, the World Economic Forum, the Bank of America, Merrill Lynch, the McKinsey Global Institute, Oxford University and other⁷, 30% or more jobs will disappear in the coming 2-3 decades as a result of processes of the robotisation of manufacturing, finance, services, and management; this also includes high-paying positions. In 2016, the World Bank published a report stating that in the coming decades more than 65% of the jobs in developing countries would be threatened by the accelerating development of technology.

⁴ ISO/IEC JTC 1/SC 42. [Artificial Intelligence // International Organization for Standardization. URL: <https://www.iso.org/committee/6794475.html?view=participation> \(accessed: 01.12.2018\).](https://www.iso.org/committee/6794475.html?view=participation)

⁵Rossiyskaya Gazeta.18.11.2018.

⁶ See: Goodman M. Future Crimes: Inside The Digital Underground and the Battle For Our Connected World. Transworld Digital, 2015; Artificial Intelligence and International Affairs Disruption Anticipated. Chatham House Report. The Royal Institute of International Affairs.Chatham House. 2018; The Malicious Use of Artificial Intelligence: Forecasting, Prevention, and Mitigation. Chatham House, 2018.

⁷ World Development Report 2016. Digital Dividends. Overview. Washington: International Bank for Reconstruction and Development / The World Bank Report, 2016; Creative disruption. Bank of America. Merrill Lynch, 2015; Technology at Work v.2.0.The Future is not what it used to be. Oxford: Global Perspectives and Solutions, 2016; A Future that Works: Automation, Employment, and Productivity. January 2017 Executive Summary. McKinsey Global Institute, 2017; Robots and industrialization in developing countries. United Nations Conference on Trade and Development. Policy Brief. October 2016. №50. 2016; Frey B. C., Osborne A. The Future of Employment: How Susceptible Are Jobs to Computerisation? 2013; The Future of Jobs Employment, Skills and Workforce Strategy for the Fourth Industrial Revolution. Ejecutive Summary. Geneva: World Economic Forum, 2016; Pol. E., James R. Robot Induced Technological Unemployment: Towards a Youth-Focused Coping Strategy // Psychosociological Issues in Human Resource Management. 2017. №5(2). P. 169 – 186 etc.

So some jobs disappeared and new jobs appeared in their place in history, a usual progress in action. But we are for the first time in history on the way towards the complete (but far from instantaneous) extinction of uncreative activities. However, the system of mass education is far from being ready to provide mass training for specialists in innovative technology development. Many questions arise in this respect. Would it be possible at all to provide such training? Are all equally gifted with abilities for such kind of activity? Even the vast majority of “white collars” activities are by no means related to innovation. So because of this fact AI will play some destabilizing (for the current society) role and some destructive antisocial forces may use this in the framework of their political campaigns and psychological warfare.

The tools based on AI introduced with a purpose of counteract organized criminality and terrorism in our point of view can potentially introduce imbalances in social and political life and be rather efficient tools of psychological warfare. Several examples on that.

- An EU-funded project is developing a way to speed up traffic at the EU's external borders and ramp up security using an automated border-control system that will put travellers to the test using lie-detecting avatars. The IBORDERCTRL system has been set up so that travellers will use an online application to upload pictures of their passport, visa and proof of funds, then use a webcam to answer questions from a computer-animated border guard, personalised to the traveller's gender, ethnicity and language. The unique approach to ‘deception detection’ analyses the micro-gestures of travellers to figure out if the interviewee is lying. The project, which will be trialed for a period of six months, has been made possible through an EU contribution of roughly €4.5 million⁸. But in forthcoming future the AI liars detectors may be used to identify politicians liars, or at business meetings or private parties from your own computer... The small gestures we make -- such as blinking, the direction of our gaze, hand gestures, the crossing of arms, eyebrow shifts and the way our lips move can all indicate the truthfulness of what we are saying -- but there are not many of us that can read such gestures quickly and successfully but AI soon could do so. It could be easily introduce different influence campaigns based on *different interpretations* of AI liars detectors.

- In October –November 2018 I was twice in Italy at different high-rank conferences. The first one on *Strategic communication and migration policy* at the Russian-Italian conference “Modern Migration: The Internal and External Challenges for Italy, Russia and the EU” at the Mercatorium University of Rome at the Chamber of Commerce of Rome, October 1st “where I presented a paper on *Strategic communication based on advanced technologies and migration policy*. “When 8,500 illegal immigrants arrive in three days, it's clear that it is all organised,” said Matteo Salvini, now an Italy's interior minister and the country's most popular politician. Mr Salvini said he intended to sue the Italian government, as well as NGOs which rescue migrants at sea, for “favouring clandestine immigration”. “It is quite clear that clandestine immigration is being organised. So we've decided to sue the government and the commanders of the navy and coast guard”⁹. AI is a good tool to find the real organizers of such psychological antinational activities but could be helpful as well in organization of artificially provoked explosions of activity of target groups, although the reasons for the activity itself may be socially justified.

- In November I took part in another big conference in Naples. The “*National Conference on Security and Legality*” promoted by the Region Campania, National Power of Attorney, Eurispes and participated by prominent authorities of the Italian government, magistrates, Italian and foreign scholars and academics had really a big political and academic impact. I took part in the antiterrorist section of the conference where presented a paper on “The Issues of Strategic Psychological Warfare with Terrorism and AI”. Once again the capacities of AI can strengthen opportunities as of anti-terrorist divisions, so, alas, of terrorists in carrying out various information and psychological operations. For example through extremely quick dissemination in Internet of provocative video, photo and text materials with specific contents orientation to different target audiences, escalation of disinformation campaigns under crisis conditions etc. with minimal human resource involvement.

- The 10th National Meeting of the Brazilian Defense Studies Association (ENABED). It was hosted by the University of São Paulo on 3 – 5th September 2018 and united several hundreds of

⁸ Smart lie-detection system to tighten EU's busy borders // European Commission. URL: https://ec.europa.eu/research/infocentre/article_en.cfm?artid=49726 (accessed: 02.12.2018).

⁹ Squire N. More Than 8,000 Migrants Rescued in Mediterranean and Brought to Italy Over Easter Long Weekend // American Renaissance. URL: <https://www.amren.com/news/2017/04/8000-migrants-rescued-mediterranean-brought-italy-easter-long-weekend/> (accessed: 02.12.2018).

specialists in military studies, international security and international relations not only from Brazil but from other countries of Latin America. At the round table "Battlefields, methods and instruments of war from the Russian perspective" I tried to analyze some aspects of predictive analytics in the framework of the psychological warfare. The predictive analytics is a variety of statistical techniques including predicting modeling, machine learning and data mining that analyze current and historical events in order to make predictions about the future events. Among programmes based on Big Data predictive analytics we can mention the Intelligence Advanced Research Project Activity Open Source Indicators program - Early Model Based Event Recognition using Surrogates (EMBERS) as a large-scale big data analytics system for forecasting significant societal events, such as civil unrest events on the basis of continuous, automated analysis of large volumes of publicly available data, initially in the countries of Latin America only.

The relative accuracy of EMBERS forecasts for peaceful goals (absolutely rightly described by the international team of the Project contributors)¹⁰ can, however, be used to manipulate the target audience in order to prove the "inevitability" of a certain process or an event and its consequences. This is only a "light prognostic weapon", but even it was not discussed in the academic article on the results of the development funded by IARPA. Meanwhile, now it is possible all sorts of efforts to purposefully scientifically-based correction of the future of the present with the use of "heavy prognostic weapons". For example, one or another program predicts that as a result of the unrest there will be several victims and about 10 thousand people will come to the protest demonstration, which will not lead to the overthrow of the government. Certain structures can, having received the relevant information, try to aggravate the situation even more a month before the event, for example, by increasing the number of victims of the "bloody regime" and adding more significant figures to their number. Then again, can be tested effects through appropriate program with subsequent correction of results. And if such programs will not be involved through the state intelligence services (which cannot be excluded), the more we cannot exclude their use by non-state actors, such as terrorist organizations.

Keeping in mind this complex of possible consequences of the usage of AI in psychological warfare for international security as a whole and psychological security in particular a group of researchers from Moscow and Saint-Petersburg started this year a big long-term grant project "Innovative Methodologies of Information Security" with financial and material support of St Petersburg University seven more grant applications have recently submitted last year and more the next year. Among them: "Artificial Intelligence in the Context of Psychological Security of Russia", "Linguistic and Political Aspects of the Information Security of the Russian Federation (on the Example of the Problem of the Countering Extremism" etc.

So hopefully about 60 million rubles will be realized on these themes till 2021 with special interest to the topic of AI risks and solutions in the sphere of national and international psychological security. The researchers from St Petersburg University, Diplomatic Academy, Presidential Academy, Plekhanov Russian University of Economics, Moscow Physical Technical University, Lomonosov Moscow State University and the institutes of Russian Academy of Sciences have all chance to achieve good results in this new but very important sphere of research of practical implementation of AI opportunities.

United in GlobalStratCom international Strategic Studies Associations which are in progress now will play rather important role in developing international teams to conduct joint researches, taking national and international grants on AI.

In considering the topic of several current and future grant projects on AI, special attention is paid to the recent threats to information and psychological security of Russia that have used artificial intelligence and that arise from long-term, actively funded information and psychological operations of state and non-state actors.

The projects take into account the best practices of research and development in the fields of artificial intelligence, big data analysis, information and psychological warfare, and information and psychological security. The main objective of the projects is to develop the tools to counter the destructive information and psychological impact on the individual, society, and the state.

As a tool in such psychological warfare, the projects' contributors see the use of hybrid intellectual systems for decision support based on fuzzy cognitive maps, the method of hierarchies, and artificial

¹⁰ Doyle A. etc. Forecasting significant societal events using the EMBERS streaming predicative analytics system // Big Data. 2014. №4. P. 185.

neural networks. The projects also aim to create the mathematical models of decision support in psychological security and to discuss the need for training based on data mining, obtained from the internet, using deep learning networks and expert systems.

By open sources of information the complex research on the role of AI in the defence of international psychological security have not been conducted yet in Russia or abroad. However, recent documents of a number of developed countries and international organizations directly set the task of carrying out such projects in the near future.

The problems stated in the projects have a complex nature, and to solve it, it is necessary to determine the social consequences of the use of artificial intelligence within the framework of IPW. To do this, it is necessary to explore the possibilities of AI in predicting socially significant events, to assess the socio-psychological and political consequences of the use of advanced technologies in IPW, and to investigate the motives of the IPW objects' behaviour on governments under attack as well as citizens (potential and real consumers of toxic information disseminated by destructive actors).

Within the framework of solving the problem, a number of specific scientific tasks can be identified. Among them:

- Determine the list of current and future threats to the public with the help of AI (including operator-controlled and autonomous bots, new quality of fake replicated audio and video information, multifaceted impact on political campaigns, discrediting public persons and many others).
- Examine the national practices of the use of AI directed toward a direct or indirect destabilizing impact on the political system.
- Identify the role of AI in countering terrorism and the information and psychological aspects of the use of AI in this area.
- Identify capabilities of predictive analytics and predictive weapons using AI.
- Determine the role of AI in the current geopolitical confrontation.
- Investigate the ethical impact of AI on international security.
- Identify ways and means to neutralize the targeted information and psychological destabilization of national political systems and international world order using AI.
- Build models of threats to the public consciousness using AI and the system of identification of such threats based on the cognitive maps and the method of analysis of hierarchies trained using neural networks and genetic algorithms.
- Carry out a comprehensive assessment of the situation, forecasts of its development and display of the potential of threats (political, military, information, etc.), and the interests of the individual state (at the operator's choice) on the basis of the hierarchical assessment module.
- Make a forecast and scenario analysis of the situation on the basis of cause-and-effect dependencies of cognitive maps, using the cognitive maps module.
- Carry out on the basis of the module of the neural networks the fulfilment and the online adaptation of the modules of cognitive maps and hierarchic evaluation based on the analyses with the aid of neural networks of the deep learning of the provided sets of texts (text mining) and internet and social media content (web mining).

The implementation of the projects tasks requires an interdisciplinary approach, necessitating the formation of research teams of specialists in various fields: political scientists, historians, mathematicians, and specialists in various fields of computer science and is open for cooperation with researchers from different countries in the spheres of mutual interest and defence of national and international security from antisocial, antidemocratic forces such as corrupted groups of influence, organized criminality, terrorist organizations etc. The head of the project, Honorary President of the Institute for African Studies of the Russian Academy of

Sciences academician Alexey Vasiliev in an interview to edition of the St. Petersburg State University said: "We are planning extensive coverage of the main results of the study"¹¹.

Prof. Pashentsev is a Committee Member of the [14th International Conference on Cyber Warfare and Security - ICCWS 2019](#) and a head of the mini-track on [Psychological Warfare, New Technologies and Political Instability in Contemporary World](#) which is being hosted by Stellenbosch University and the CSIR in Stellenbosch, South Africa on the 28 February - 1 March 2019¹²; and the Committee Member of the [European Conference on the Impact of Artificial Intelligence and Robotics](#) (ECIAIR) at Oxford. The last event can be a key forum where natural scientists, social scientists and philosophers come together to envision the future of society in the context of advanced AI and Robotics, so as to keep progress in balance with the meaning of life and the destiny of humankind - the stakes are much too high to do otherwise. So the conference organizers welcome contributions from philosophers reflecting on the ethical dimension of AI and the balance between science and conscience.¹³

The mentioned Russian projects are open for international collaboration. Such approach is based on the obvious fact that reliable information and psychological security of one country implies reliable information and psychological security of other countries and of all mankind. The damage to the psychological security of one nation due to the actions of self-serving internal or external elites, strikes the psychological security of the whole world.

See more on the event:

- [Artificial Intelligence and Issues of National and International Psychological Security](#) (in English)//ALAI.
- [On the round table on the freedom of expression in the digital environment at the Ministry of Foreign Affairs of the Russian Federation](#) (in Russian) // Ministry of Foreign Affairs of the Russian Federation.
- [The Ministry of Foreign Affairs of the Russian Federation held a round table “Freedom of expression in the digital environment in the context of discussing the issues of international information security at specialized international platforms”](#) (in Russian) // Russian Committee of UNESCO Program “Information for Everyone”.

¹¹ SPSU is against the information terrorism. URL: <https://spbu.ru/news-events/krupnym-planom/spbgu-protiv-informacionnogo-terrorizma> (accessed: 02.12.2018).

¹² ICCWS – 14th International Conference on Cyber Warfare and Security. 28 February – 1 March 2019, Stellenbosch University, South Africa. URL: <https://www.academic-conferences.org/conferences/iccws/> (accessed: 02.12.2018).

¹³ ECIAIR – European Conference on the Impact of Artificial Intelligence and Robotics . 31 October – 1 November 2019, EM-Normandie Business School, Oxford, UK. URL: <https://www.academic-conferences.org/conferences/eciair/> (accessed: 02.12.2018).

- Leonid Levin: Russia needs its own version of regulation on the Internet, taking into account the best world practices (in Russian) // State Duma. The Federal Assembly of the Russian Federation.