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A biweekly newsletter on AI and autonomy developments in Russia

CNA Russia Studies Program

HIGHLIGHTS OF ISSUE 33

- Russian vice premiers meet with Russian producers of radio electronics to discuss the development of domestic production and potential additional government support.
- Forces receive further training in reconnaissance strike and dual-hatted submersibles.
- Unmanned aerial vehicles remain a major focus for companies and organizations focused on logistics and transportation.
- Mathematicians from Moscow State University propose improvements to training experts in AI, which they detail in an article published in the *Intelligent Systems* journal.
- MTS announces memorandum of strategic cooperation with South Korea's KT Corporation (KT).

THIS WEEK'S CONTENTS

GOVERNANCE AND LEGISLATION

GOVERNMENT OFFICIALS DISCUSS FUTURE OF DOMESTIC MICROELECTRONICS PRODUCTION

Russian vice premiers Dmitry Chernyshenko and Yuriy Borisov met with Russian producers of radioelectronics to discuss the development of domestic production and potential additional government support. According to TASS, while the government is considering the possibility of a national project focused specifically on the sector, current measures have included quotas for Russian-made radioelectronics in state and regional procurement programs. Borisov stated that more has been done in the Russian microelectronics area in the last two years than had been done in the preceding 25 years and that the digital transformation of Russia's critical information infrastructure based on imported digital equipment poses a national security threat.

Unconfirmed reports in other outlets suggest that Chernyshenko also proposed a potential goal of Russia's full independence from foreign electronics by 2030. He noted that the government has given up the civilian sector radioelectronics market to foreign competition even as it supported production of radioelectronics for the defense sector. Borisov, in turn, noted the importance of import-substitution in the civilian sector given the potential threat of a US ban on exports of microelectronics to Russia and already existing sanctions on the production equipment for 65 and 90 nm microchips. Reports suggest that the officials then turned to market participants to consider potential approaches to achieve independence from foreign suppliers. While Russia has several domestic suppliers of microelectronics, not all of them manufacture their products domestically, and their quality compared to foreign alternatives is also lacking. This is a challenge, given Russia's ambitious goals to transform its information infrastructure in line with Digital Economy and other efforts.

Russian media have also covered US concerns about the possibility that Russia will deny supplies of neon, palladium, and several other elements in response to US sanctions of microelectronics to Russia. Palladium is important in the manufacturing of microchips. In turn, the supply chain for neon goes from Russia via Ukraine to the United States, and is likely to be affected by a conflict in the region.

Sources: "White House: Russia will block global chip manufacturing in response to export restrictions on the iPhone" [Белый дом: Россия заблокирует производство чипов по всему миру в ответ на запрет ввоза iPhone], CNews, Feb. 11, 2022, https://www.cnews.ru/news/top/2022-02-11_belyj_dom_rossiya_ostanovit; "Chernyshenko hasn't excluded the appearance of a new national project in the radioelectronics field" [Чернышенко не исключил появления нового нацпроекта в области радиоэлектроники], TASS, Feb. 12, 2022, https://tass.ru/ekonomika/13688715; "Russian technology manufacturers have been set a goal to enter the global top-5" [Производителям техники из России поставили цель войти в мировой топ-5], Comnews.ru, Feb. 14, 2022, https://www.comnews.ru/content/218799/2022-02-14/2022-w07/proizvoditelyam-tekhniki-rossii-postavili-cel-voyti-mirovoy-top-5.

DRAFT STANDARD AND PII TOOL IN THE WORKS

By 2023, Russia plans to draft a preliminary standard and develop a tool to assess how well personal identifiable information (PII) has been anonymized and prepared for transmission using different data transfer approaches. According to TASS, this effort, led by the Center of Competencies of the National

Technological Initiative at the Tomsk State University of Control Systems and Radioelectronics, will contribute to the Russian legal improvement efforts to protect personal identifiable information by understanding whether such data can be recreated from previously anonymized data.

Source: "Criteria of quality protection of personal identifiable information will be developed in Tomsk" [Критерии качественной защиты персональных данных разработают в Томске], TASS, Feb. 16, 2022, https://tass.ru/obschestvo/13725777.

MILITARY AND SECURITY

A NOTE ON RUSSIAN MILITARY OPERATIONS IN UKRAINE

The current newsletter continues to focus on training and developments in Russia's military use of autonomy and AI. At this point in the conflict, we have little reporting on unmanned systems the Russian military is using in Ukraine. Admittedly we are surprised by this at the moment but are working to understand the lack of reporting and watching closely for any future use of unmanned systems.

RUSSIAN MILITARY PRACTICES USING UAVS IN RECONNAISSANCE STRIKE AND FIRE CONTOURS

In the weeks prior to the Ukraine invasion, Russian military forces practiced reconnaissance-fire/reconnaissance-strike contours (complexes), a tactic that emerged recently and that is widely integrated in the Russian force structure. These "contours" refer to the grouping of various sensor and strike platforms, with integrated information-sharing networks, to increase the degree of potential fire capabilities, reduce the "reconnaissance-destruction" cycle for the timely detection and infliction of specified damage to important objects, groupings of enemy troops, and the main elements of state and military infrastructure. UAVs play an integral part in this concept, by increasing the Russian military's situational awareness and ability to maximize its strike systems on the modern battlefield.

In January and February 2022, Russian forces utilized different UAV platforms such as Orlan-10—a workhorse of the Russian drone fleet with a range of up to 120 kilometers—in numerous recon fire/strike contour drills. For example, Baltic Fleet artillery forces in the Kaliningrad region conducted live firing from "Hyacinth" 152-mm guns at a distance of more than 20 km. Target coordinates were transmitted in real time from UAVs to the artillery control points. In mid February 2022, Orlan-10 UAVs directed "Uragan" multiple-launch rocket systems to targets during drills in the Central Military District. Also in mid February, Russian forces stationed in Belarus used unmanned aerial vehicles to transmit coordinates and video images of the targets to the artillery formations. That same week, "Uragan" and "Grad" multiple launch rocket batteries in the Southern Military District held a live-fire exercise, with Orlan-10 UAVs directing and adjusting the fires. In early February, Black Sea Fleet UAV units took part in a joint tactical exercise with the Southern Military District's artillery crews stationed in Crimea. The UAV operators carried out fire adjustments and detection of targets.

With the Russian invasion of Ukraine commencing on February 23, it appears that these drills were part of force preparedness. With the fighting ongoing as this newsletter is being prepared, we are watching to see evidence of the employment of these tactics.

Sources: D. Mishin, "Understand the Basics: Features of the organization of combat training of units of the missile troops

and artillery of the Ground Forces, which are part of the reconnaissance-strike and reconnaissance-fire complexes" [Понять основы, Особенности организации боевой подготовки подразделений ракетных войск и артиллерии Сухопутных войск, входящих в состав разведывательно-ударных и разведывательно-огневых комплексов], *Armeyskiy Sbornik, Journal of the Ministry of Defense of the Russian Federation,* July 15, 2021, https://army.ric.mil.ru/Stati/item/334380/; "Baltic Fleet artillerymen performed live firing during exercises near Kaliningrad" [Под Калининградом артиллеристы Балтфлота на учениях выполнили боевые стрельбы], Tass.ru, Feb. 21, 2022, https://tass.ru/armiya-i-opk/13785091; "Rocket artillery and unmanned aircraft exercises started in the Chelyabinsk region" [В Челябинской области стартовали учения реактивной артиллерии и беспилотной авиации], Tass.ru, Feb. 14, 2022, https://tass.ru/armiya-i-opk/13698171; "Russian artillery troops hammer enemy forces in joint drills in Belarus," Tass.com, Feb. 15, 2022, https://tass.com/defense/1403307; "Black Sea Fleet UAV units held a joint exercise with the Southern Military District artillerymen" [Подразделения БПЛА Черноморского флота провели совместное учение с артиллеристами ЮВО], TvZvezda.ru, Feb. 5, 2022, https://tvzvezda.ru/news/202225162-aS8v4.html.

RUSSIAN MANUFACTURER: HELICOPTER-TYPE DRONES HAVE AN ADVANTAGE OVER OTHER AERIAL SYSTEMS

Alexey Mamotko, an official with the Unmanned Helicopters program at the Russian Helicopters Holding, noted the advantage that BAS-200 helicopter-type UAVs have over other unmanned aerial platforms. He noted that these drones have a significantly higher power-to-weight ratio than multicopters and, unlike aircraft-type UAVs, have an optimal speed for monitoring the environment. Mamotko noted that smaller multicopters' electric motors have a flight time of only up to an hour, while the BAS-200 can stay in the air for four hours. Moreover, BAS-200 can lift up to 50 kg compared to only 10 kg for a multicopter. Additionally, Mamotko thinks that BAS-200 has an optimal flight speed of around 40-70 km per hour for best environment monitoring. Another BAS-200 advantage is the ability to hover; aircraft-type UAVs cannot match that functionality.

The BAS-200 unmanned aerial vehicle, manufactured by the Russian Helicopters Holding, has a maximum speed of 160 km per hour, can be used in daytime and nighttime monitoring, and transmits video information in the visible and infrared ranges. CNA noted earlier that Russian defense manufacturers sometimes tend to inflate their products' characteristics, and Mamotko's active advertising of his UAV is indicative of the growing competition in the Russian military UAV manufacturing sector.

Source: Разработчик БАС-200 назвал его преимущество в энерговооруженности над другими БЛА, Tass.ru, Feb. 15, 2022, https://tass.ru/ekonomika/13707913.

RUBIN BUREAU PRESENTS A DESIGN FOR A SUBMERSIBLE PATROL VESSEL

The Rubin Central Design Bureau unveiled a design for the *Strazh* ("Guardian") submersible patrol ship, which combines the advantages of a submarine and a surface vessel. This design showcases a small-caliber automatic gun, two guided missile launchers and four 324-mm caliber torpedo tubes. The proposed vessel is 72 meters long, has a speed of up to 21 knots, and has a displacement of about 1,300 tons. Rubin notes that the design's contours with a wave-piercing stem and obstruction of the sides reduces pitching, increasing the ship's stability as a weapon platform, and reduces radar visibility. The ship also has two sealed multifunctional hangars to accommodate boats, weapons, unmanned aerial vehicles, or other payloads. Rubin notes that this innovative ship can be used for Russian submarine and antisubmarine drills. The Design Bureau also emphasized that the ability to dive allows *Strazh* to work in new ways as a patrol vessel.

Source: "Rubin Design Bureau unveiled a second modification of its 'Strazh' submersible patrol vessel" [ЦКБ "Рубин" представило вторую модификацию погружающегося патрульного корабля "Страж"], Tass.ru, Feb. 9, 2022. https://tass.ru/armiya-i-opk/13657717.

MARKETS AND PRIVATE SECTOR

UNMANNED SYSTEMS CONTINUE TO DEVELOP ACROSS DIFFERENT SECTORS

Unmanned aerial vehicles remain a major focus for companies and organizations focused on logistics and transportation. A number of new developments were noted in recent weeks, including infrastructure plans for air taxis and automated cargo drones, as well as new implementation of drones used for monitoring and surveillance of transport infrastructure. All remain in experimental or planning stages, but there is clear interest in moving forward on UAV implementation for logistics purposes.

- The Aeroscript Research Center in Belgorod is building a zone to test unmanned "air taxis" that are currently under development by the EFKO agribusiness company at the Biryuch Innovation Center. The project involves the integration of a digital app, Nebosvod, which allows users to register a drone and map out a flight route that can be communicated to air traffic authorities. Although the project is in early stages, its proponents claim that it may be the most advanced in Russia at present.
- The Nebosvod app has also been introduced to Skoltech's Space Center, which also intends to host an unmanned air traffic hub. The app is undergoing tests for smooth interaction with air traffic authorities, which is being sponsored by a joint urban air mobility project between the Moscow government and the Moscow Innovation Cluster.
- Russian Railways (RR) intends to use UAVs for remote inspection of rolling stock, technical inspection of depot facilities, and the "covert checks on the operation of locomotives and locomotive crews at remote stations." RR has announced a competition for this project, which requires that drones "must be in the air for at least 35 minutes, be all-weather and collapsible. The software must also implement the basic operations of geoinformation technologies."
- The Aeronet Market Roadmap (a National Technology Initiative) has been revised since its promulgation in 2016, with more details on what legal and regulatory changes need to be made in order to remove barriers to future technological development in the unmanned field. The revised edition has built out specific sections focusing on registration and commercial rights and responsibilities, on standards for geodesy and cartography, and on quality assurance and certifications for equipment and manufacturers.

Sources: Irina Priborkina, "A 'Taxi Park' is being prepared for air taxis" [Для аэротакси готовят 'таксопарк'], ComNews, Feb. 17, 2022, https://www.comnews.ru/content/218871/2022-02-17/2022-w07/dlya-aerotaksi-gotovyat-taksopark; "An experimental flight zone for an unmanned taxi will be created in the Belgorod Region" [В Белгородской области создадут экспериментальную полетную зону для беспилотного такси"], TASS, Feb. 16, 2022, https://tass.ru/ekonomika/13726803; "Skolkovo tested a dedicated air zone for unmanned flights" [В «Сколково» испытали выделенную воздушную зону беспилотных полетов], CNews, Feb. 17, 2022, https://www.cnews.ru/news/line/2022-02-17_v_skolkovo_ispytali_vydelennuyu; "Russian Railways plans to involve drones in monitoring trains and tracks" [РЖД планирует привлечь авиабеспилотники к мониторингу составов и путей], *Vestnik GLONASS,* Feb. 10, 2022, http://vestnik-glonass.ru/news/intro/rzhd-planiruet-privlech-aviabespilotniki-

k-monitoringu-sostavov-i-putey/; Ivan Sychev, "Flying taxis and parcels to the balcony: how unmanned aircraft is developing in Russia" [Летающее такси и посылки на балкон: как в России развивается беспилотная авиация"], *Hightech*, Feb. 7, 2022, https://hightech.fm/2022/02/07/drone-in-russia.

NEW HEALTHCARE RESEARCH FACILITY OPENS IN MOSCOW

The mayor of Moscow opened a new state-run center for healthcare and technology innovation to considerable fanfare. According to Mayor Soyanin, the Moscow Center for Innovative Technologies in Healthcare (MCITH) is "is designed to solve several problems....Firstly, this is a single window for clinical trials, so that innovations that are offered on the market can be brought to an industrial scale. Secondly, it will assist innovative companies with preferential rent to host and create a cluster of innovative medical technologies. Thirdly, it will assist our leading clinics to introduce new technologies, this is to support new innovative teams that work in these clinics. Fourthly, it will combine together the capabilities of the medical innovation sector, our leading clinics and leading universities and institutes of our city, including Moscow State University, Skoltech, Moscow Institute of Physics and Technology…."

More concretely, the MCITH is focused on "the search [for], promotion of, and development and implementation of advanced technologies (drugs and diagnostic methods) in Moscow healthcare." Startups and projects can become residents of the center, which will give them preferential access to the Federal Service for Intellectual Property, which will ensure the ease of patenting new innovations. Nineteen companies are currently residents. Residency is also subsidized to reduce rents, and the center is designed to promote interaction in the healthcare field across corporate, academic, and state actors.

Source: "Center for Innovative Technologies in Healthcare Opened in Moscow" [В Москве открыли центр инновационных технологий в здравоохранении], TASS, Feb. 17, 2022, https://tass.ru/obschestvo/13741887.

AI ENLISTED TO MODEL GLOBAL CARBON CYCLES

A new initiative by Sber and Skoltech intends to create a software algorithm that will evaluate the efficacy of decarbonization projects using an AI program trained on terrestrial remote sensing databases. This program is pitched to be an aid for decision-makers when assessing decarbonization strategies and their macro-level impacts. In doing so, it models the flows of carbon-capturing processes in forests and other carbon-sinks. The modeling framework is described as "process-driven biochemical models of the full carbon cycle for forest areas" which estimate carbon stocks and flows. The model uses "hybrid approaches based on carbon cycle modeling, and deep neural networks were used to assess the carbon balance of forest areas [and] analyze remote Earth sensing data." The project includes partners at the Space Research Institute and Shirshov Institute of Oceanology, both of the Russian Academy of Sciences, as well as the Izrael Institute of Global Climate and Ecology. It will be housed at Skoltech's AI Research Center, which was created in 2021 with state support.

Source: "Decarbonization: Russian scientists bet on AI while government sets meagre country goals," *East-West Digital News,* Feb. 11, 2022, https://www.ewdn.com/2022/02/11/russian-scientists-team-up-to-develop-carbon-balance-evaluation-software/.

HUMAN CAPITAL

MOSCOW STATE UNIVERSITY SCIENTISTS PROPOSE MORE SPECIALIZATION IN AI TRAINING

Mathematicians from Moscow State University have proposed improvements in training students to become experts in artificial intelligence, which they detail in an article published in the journal *Intelligent Systems*. According to *Scientific Russia,* the authors propose that education should become more specialized, focusing on developing each student's individual trajectory towards one of several main career paths: data scientist, data engineer, data analyst, software engineer, operations and development specialist, risk manager / auditor, or data architect. According to the article, "Each specialist can change his or her field of activity or, in special cases, combine directions, but in the learning process, it is necessary to train specialists of various profiles according to independent programs." One of the authors, Ilya Barykin, added: "Universities need to develop scientific and educational programs, according to which students will learn everything they need for a further successful career in their chosen field, as well as participate in the development of real projects (for example, in student design bureaus)."

Source: "Moscow State University mathematicians proposed a concept for reaching the basics of artificial intelligence" [Математики МГУ предложили концепцию достижения основ искусственного интеллекта], *Scientific Russia,* Feb. 17, 2022, https://scientificrussia.ru/articles/matematiki-mgu-predlozili-koncepciu-prepodavania-osnov-iskusstvennogo-intellekta.

MTS PROVIDES TOMSK POLYTECHNIC UNIVERSITY STUDENTS WITH IOT SENSOR KITS

Russian telecommunications company MTS provided Tomsk Polytechnic University with special equipment kits to help students develop skills in Internet of Things (IoT) product design. Students can use the kits to develop highly energy-efficient sensors that transmit a small amount of data. The hope is that more students will learn to work with the sensors, accelerating the development of Russian IoT products. According to Marina Feshchenko, director of MTS in the Tomsk Region, "Devices compatible with the NB-IoT network will become the main driver for the development of the Internet of things in Russia in the next three to five years. They are already in demand in the fields of real estate, 'Smart City', industry, security and many others. I am sure that with the support of their teachers and our experts, students will develop their own prototypes of IoT sensors, which in the future will allow them to meet the needs of the Russian market."

Source: "MTS and Tomsk Polytechnic University will teach students how to work with the Internet of things" [МТС и Томский политехнический университет научат студентов работать с сетью интернета вещей], CNews, Feb. 9, 2022, https://www.cnews.ru/news/line/2022-02-09_mts_i_tomskij_politehnicheskij.

AI HACKATHONS AND EVENTS

Notable Russian hackathons and events from this reporting period are mentioned below:

- According to a February 11 *Izvestiya* article, participants in a recent NTI Up Great PRO//READING hackathon successfully developed an AI English teacher assistant. The AI was able to identify errors

in Unified State Exams with 107 percent of the efficiency of real teachers. As a result, two teams—DeepPavlov and Nanosemantics—were awarded a total of 100 million rubles.

- A TV Neurotechnology hackathon took place on February 25-27. The hackathon was organized by the Russian Television and Radio Broadcasting Network, Channel One, and Moscow State University. The results of the hackathon will be announced March 11.

Sources: "Developers from the Russian Federation received 100 million rubles for the creation of an AI teacher assistant" [Разработчики из РФ получили 100 млн рублей за создание ИИ-ассистента учителя], *Izvestiya,* Feb. 11, 2022, https://iz.ru/1289840/2022-02-11/razrabotchiki-iz-rf-poluchili-100-mln-rublei-za-sozdanie-ii-assistenta-uchitelia; "TV Neuro Technologies," TVNeurotech.Ru, https://tvneurotech.ru/?utm_source=ivan&utm_medium=hackathons, accessed Feb. 27, 2022.

AI INNOVATIONS FROM UNIVERSITY RESEARCH

A number of articles addressed advancements in AI technology from applied university research:

- According to a February 7 press release, the Institute of National Technology Initiative (NTI) of Sevastopol State University created a droplet-shaped drone with a high lift coefficient, which was developed by "solving the inverse problem of gas dynamics." According to the article, the NTI Institute is also working on the creation of heavy transport drones and air taxis.
- According to a February 8 press release, students from Novosibirsk State University developed a system for isolating droplets from a supersonic waterjet flow. Using neural networks, scientists were able to collect information about the centers of mass, sizes, velocities, and movements of different droplets. This work was part of a series of experimental studies in the field of fluid and gas mechanics in collaboration with industry partner Sigma-Pro.
- According to a February 15 *Scientific Russia* article, scientists from the South Ural State University (SUSU) have developed mathematical models which could be used to control and predict traffic at intersections. The research utilized video camera data and neural networks.

Sources: "SevGU scientists have created a drop-shaped drone" [Ученые СевГУ создали беспилотник в форме капли], SevGu.Ru, Feb. 7, 2022, https://www.sevsu.ru/novosti/item/14587-uchenye-sevgu-sozdali-bespilotnik-v-forme-kapli; "Students of the NSU School of Engineering trained a neural network to recognize water drops in a supersonic flow" [Студенты Инженерной школы НГУ обучили нейросеть распознавать капли воды в сверхзвуковом потоке], NSU.Ru, Feb. 8, 2022, https://www.nsu.ru/n/media/news/obrazovanie/studenty-inzhenernoy-shkoly-ngu-obuchili-neyroset-raspoznavat-kapli-vody-v-sverkhzvukovom-potoke/#_q2sfwagav; "Artificial Intelligence will predict the situation on the roads" [искусственный интеллект будет прогнозировать ситуацию на дорогах], *Scientific Russia,* https://scientificrussia.ru/articles/iskusstvennyj-intellekt-budet-prognozirovat-situaciu-na-dorogah.

INTERNATIONAL COLLABORATION

PUTIN AND BOLSONARO DISCUSS COOPERATION IN ADVANCED IT TECHNOLOGY

During Brazilian president Jair Bolsonaro's recent visit to Moscow, he discussed a broad range of cooperation ventures with Vladimir Putin, including AI. In his press conference after meeting with Putin, Bolsonaro noted that the two countries "attach great importance to improving the dynamics of the

technological alliance between our countries. Great importance is attached to areas such as nanotechnology, biotechnology, artificial intelligence, information technology and health research."

Source: "Bolsonaro calls the agenda of negotiations with Putin productive" [Болсонару назвал продуктивной повестку переговоров с Путиным], TASS, Feb. 16, 2022, https://tass.ru/politika/13730149.

MTS AND SOUTH KOREA'S KT CORPORATION TO COOPERATE

MTS PJSC, a Russian company providing digital, media, and telecommunications services, and KT Corporation (KT), a Korean information and communication technology company, recently signed a memorandum of strategic cooperation in the development of new business areas, including the creation of data centers, development of joint solutions based on artificial intelligence, and joint production of media content. According to the terms of the memorandum, the two companies plan to set up a joint venture. According to the plan, MTS will use the experience and expertise of KT, the leading operator of data centers in Korea, in the construction and operation of data centers in Russia. The strategic partnership will focus on developing joint solutions using AI technologies by combining KT's GiGA Genie voice recognition service and video analytics solutions from MTS AI, a subsidiary of MTS. The memorandum also provides for the joint production of media content and its introduction to the global market through partnerships between the KION multimedia platform from MTS and KT's subsidiaries StudioGenie and Seezn.

Source: "MTS and Korean KT Corporation will cooperate in the creation of data centers, AI solutions and media content" [МТС и корейская KT Corporation будут сотрудничать в создании дата-центров, AI-решений и медиаконтента], CNews, Feb. 9, 2022, https://www.cnews.ru/news/line/2022-02-09_mts_i_korejskaya_kt_sorporation.

ENGINEERS FROM HUAWEI IN MOSCOW DISCUSS SUCCESSES

Engineers from the Huawei Research Center in Moscow have recently developed a speech-to-text synthesis algorithm that is superior in quality to similar models. The model uses diffusion probabilistic models (DDPM) for generating objects. Since 2021, DDPM models have been able to outperform GAN models in generating images. Until recently, the main problem of DDPM has been sampling speed. Huawei engineers have proposed an improved algorithm for the numerical solution of stochastic differential equations, which has greater accuracy when using longer steps, and therefore allows for the reduction of the number of steps without compromising the quality of the generated samples. The use of the algorithm provided a fivefold acceleration of sampling in voice conversion and an almost tenfold acceleration in image generation.

Source: "Engineers at the Huawei Research Center in Moscow have achieved significant success in accelerating generation using diffusion models" [Инженеры Исследовательского Центра Huawei в Москве добились значительного успеха в ускорении генерации с помощью диффузионных моделей], AI-News.ru, Feb. 8, 2022, https://ai-news.ru/2022/02/inzhenery_issledovatelskogo_centra_huawei_v_moskve_dobilis_znachitelnogo.html.

This report, the thirty-third in a series of biweekly updates, is part of an effort by CNA to provide timely, accurate, and relevant information and analysis of the field of civilian and military artificial intelligence (AI) in Russia and, in particular, how Russia is applying AI to its military capabilities. It relies on Russian-language open source material.

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Russia AI and Autonomy Newsletter Archive