SarMUN x UN75 SHAPING 2020 AND BEYOND SHAPING UR FUTURE TOGETHER

Study Guide

UNCST

Topic: Artificial Intelligence Disruption The Future of Tech Scene Regulations and Privacy Concerns



1. Welcome Letter

Dear Delegates,

The United Nations Commission on Science and Technology for Development (UNCSTD) is a subsidiary body of the Economic and Social Council (ECOSOC). It has been formed in 1992 and has been meeting annually ever since. The UNCSTD holds 43 members which are elected by ECOSOC. The UNCSTD reports back to ECOSOC and the General Assembly (GA) and is meant to provide high level advice on relevant issues of Science and Technology to the two bodies. The UNCSTD typically analyses issues in-depth and provides concrete policy recommendations to help ECOSOC and the GA to guide the future work of the United Nations and its member states.

Science and Technology are cross cutting issues and are inherently related to the success of the Sustainable Development Goals. Science and Technology Innovation (STI) is the key driver of economic development and can generate prosperity. STI can connect people, give them a voice, and can provide access to basic needs like education and healthcare to those most in need. It is on the UNCSTD to determine how STI can best enable the achievement of the Sustainable Development Goals. UNCSTD delegates will have to think about how to maximize the gains from new technologies and how to minimize the negative effects. They are expected to provide guidance to technological progress, so that it may be fair progress for all humanity and be a leading voice in technological foresight.

For this task we, as chairpersons, are here with you to guide you through your debates and help you out with the nuances of this complicated topic. We are keen to see what solutions you will come up with to the issue at hand!

Since you are probably wondering who we are, we will briefly introduce ourselves and are looking forward to meeting you at IsarMUNxUN75!

Tetiana: I am (already) 21 years old, and I am pursuing my master's in Science and Technology Studies at Maastricht University. Originally I am from Ukraine, where I spent most of my life before I came to Poland for my bachelors degree. My MUN story started at my home university conference, after which I decided to organize this event once as a Director General - and the aim came true. Before that I was involved in several Polish MUNs as a delegate and videographer. Paradoxically, I have started chairing only after being in an executive committee, thus I am looking forward to meeting more fellows during ISARMUN. And it will be my first conference of such scope. I appreciate the fact that you took a challenge to debate online from your own room. But hey - we are the Science and Technology Committee, let's try out this digitalized format!

Julian: I am 22 years old and from Germany. I am currently doing my master's in Public Policy and Human Development at the United Nations University and Maastricht University. Before that I have done my bachelor's in Biology also at Maastricht University. I started MUNing in 2018 at

EuroMUN in Maastricht and then joined my association UNSA Maastricht. There I have been part of the Permanent Delegation and part of the EuroMUN 2020 secretariat. Now, I am the Secretary General of EuroMUN 2021. I have been a delegate at 9 conferences, chaired at 3 and been Crisis staff at one more. Having tried all ways to get involved in MUN, I really do not have much of a preference and enjoy being a delegate, chair and organizer equally. With me as your chair you can expect the committee to be very orderly and productive, but also to have the strongest meme game.

With that, we would like to wish you a lot of fun and all the best researching this topic. We cannot wait to get to know you. See you soon!

Best Regards,

Your Chairs Tetiana & Julian





2. Introduction

Artificial intelligence is a group of many different technologies working together to enable machines to sense, comprehend, act, and learn with human-like intelligence. Technologies of the AI landscape include machine learning and natural language processing to name only a few. Each one is evolving along its own path and, when applied in combination with data, analytics and automation they can perform a broad variety of tasks¹.

We can distinguish between "narrow (weak)" and "general (strong)" artificial intelligence. Narrow AI is the AI that is most commonly used today. It is applied in everyday things such as apps, advertising and optimization software. General AI is, for the most part, not around yet. The big difference is that general AI can think strategically, abstractly and creatively like a human, whereas narrow AI can only perform single tasks or a narrow range of similar tasks. At this stage, artificial intelligence remains an extension of human capabilities rather than a replacement².

Inanimate objects coming to life is an idea that has been around since ancient times and the beginnings of modern artificial intelligence can be traced to classical philosophers' attempts to describe human thinking. We can consider the field of modern AI properly founded from 1956 onwards, when the term "Artificial Intelligence" was first coined at a conference in New Hampshire³.

Research and Development in AI really started to pick up steam in the 1990s and in 1997 a computer beat a professional chess player for the first time. In 2014 chatbot "Eugene Goostman" passed a Turing test by tricking a number of judges into thinking it was a real person. Since then the traditional Turing test has been doubted as a good measure of artificial intelligence, and researchers are working on an updated version⁴.

The rise of artificial intelligence is one of the many factors that have contributed to the increase in privacy concerns that can be seen around the globe. 9 in 10 Americans are concerned about their privacy and over a third are advocating stricter legislation. The EU's General Data Protection Regulation (GDPR) went into effect in May 2018. It is a large-scale legislation to offer consumers more protection. The complexity of the topic of privacy has only increased over time and is facing another major high with the rise of AI. Consumers are faced with an endless stream of lengthy user agreements and will hastily click to "accept" without knowing what privacy rights they are giving up.

¹ (*What Is Artificial Intelligence* | *Accenture*)

² (What Is Artificial Intelligence | Accenture)

³ (A Brief History of Artificial Intelligence | Live Science)

⁴ (A Brief History of Artificial Intelligence | Live Science)

Collected information is stored in large databases, which can be mined for multiple uses, including marketing opportunities, or purchasing recommendations. Facial recognition and voice identification systems, however, have the capability of tracking our movements in the real world. In a smart-home, smart appliances, motion-sensing lights, and thermostats collect data about when we enter and leave. All of these provide a helpful service. Unfortunately, the potential risks they carry are not trivial. "Seemingly anonymized personal data can easily be de-anonymized by AI," says Bernhard Debatin, an Ohio University professor and director of the Institute for Applied and Professional Ethics. "It also allows for tracking, monitoring, and profiling people as well as predicting behaviours. Together with facial recognition technology, such AI systems can be used to cast a wide network of surveillance."⁵.

In 1980 the OECD first agreed on "Guidelines on the Protection of Privacy and Transborder Flows of Personal Data". They were updated in 2013. The OECD privacy principles include⁶:

• **Collection Limitation Principle**: *Collected data should be limited to a minimum.*

• **Data Quality Principle**: *Collected data must be relevant to the purpose.*

• **Purpose Specification Principle**: *The purpose of the data collection must be specified to the user.*

• **Use Limitation Principle**: *Personal data should not be disclosed to third parties without consent of the user or if necessary, for law enforcement.*

• Security Safeguards Principle: Personal data should be reasonably protected.

• **Openness Principle**: It should be obvious to the user what data is stored and any changes.

• **Individual Participation Principle**: Individuals should have the right to inquire about, modify and delete any data stored.

• Accountability Principle: The data controller should be accountable for compliance or non-compliance with these principles.

Most data privacy legislation, including the GDPR, orients itself around the OECD privacy framework. Even without the rise of AI, the topic of privacy is a crucial one. It is simply the fact that the development of AI is relatively unpredictable, which makes it pressing to address the issue now. Legislators need to find a trade-off between successfully competing in the global competition surrounding the development of AI and protecting the privacy rights of consumers and citizens⁷.

⁵ (Forbes Insights: Rethinking Privacy For The AI Era)

⁶ (THE OECD PRIVACY FRAMEWORK 2013)

⁷ (Introduction: The Many Futures of AI in Europe)

3. Main body

achievement address agenda appropriate assembly building capacity-building challenges change collaboration commission communications conference context continue contribution cooperation council countries creating critical data **development** digital economic education efforts emerging enablers encourage engineering environmental exercises existing facilitation financing foresight forum gender general global goals human impact implementation importance including inclusive information infrastructure initiatives **innovation** integrate international investment key learned local mechanism nations noting outcome particularly planning policies programmes progress promote provide rapid recalling recognizing relevant res research resolution resources reviews role **Science** scientific sector share skills social stakeholders strategic strengthen Support Sustainable systems taking **technology** towards trade trends united women work world

Word cloud made of UN CSTD Resolution 2019 text⁸

The nature of regulation concerns

Understanding of Artificial intelligence should not be limited to the simple tool or code, which functions in the background. It combines social and technical factors - technicians write the source code minding their vision and also the purpose of future tools. AI changes the meanings of standardized and publicly accepted subjects. We take for granted that CCTV cameras are used for surveillance and public security, but once coupled with facial recognition it becomes a sensitive data collection tool.⁹ Consequently, like any new technology, AI has plenty of controversies and uncertainties, which challenge traditional canons of law.

First of all, we need to understand why discussion over AI versus data privacy takes place at all. AI is dependent on the so-called learning process when Big Data is fed to the algorithm for the final output. It implies that more accurate and profitable output would be reached with a constant supply of new datasets. As for example, Big Data Algorithmic Systems (BDAS) combined with AI algorithms assists decision making processes like which school is better to attend or which route to take today.¹⁰ BDAS relies on Big, Open and Linked Data (BOLD).

With the outburst of the Internet, more personal data became publicly available.

However, can the inventors use our personal information for their own profit? Or should we normalize the tradeoff between data privacy and improved technology for better development?

⁸ (Resolution Adopted By The Economic And Social Council On 23 July 2019")

⁹ ("Artificial Intelligence And Privacy Issues Paper")

¹⁰ ("Artificial Intelligence And Privacy Issues Paper")

Implications of data privacy governance

According to Benfeldt et al., a key to proper governance of data is understanding what data systems - not only data - behind AI imply: closer attention should be paid to how data is collected, managed and used.¹¹

In order to address all three aspects on a national level, a government is expected to provide a variety of regulatory measures such as guidelines, policies, laws etc. Decision over the type of regulation also sets the framework for business, which operates either on the base of automated decisions or the ones which are directly involved in creation and inscription of AI systems. Three main modes of regulation outlined by Pagallo et. al differ from each other by the extent of government interference in business processes.¹² The **three types** are:

- legal regulation or top-down regulation: restricting type of governance, which implies greater control over corporate and individual actions;

-co-regulation: active partnership between stakeholders to co-shape norms and actions;

-self-regulation or bottom-up approach: implies voluntary compliance with pre-established norms and guidelines, which have no binding power.

The trade-offs occuring once data protection policy is strict should be carefully analyzed in order to understand why controversies over regulation occur. On the one hand, ITU presents an article which showcases the goods of data collection to improve health services using AI algorithms.¹³ Besides this isolated case of public services enhancement, AI is generally associated with development and tech supremacy in general, which makes it harder to come up with efficiently restricting rules for data privacy since both government and industry are interested in economic growth. This issue will be closer inspected in the next section.

On the other hand, the reason behind strict data collection regulations of GDPR is the fact of potential inherent biases which might influence the output of AI systems and lead to discriminatory conclusions. The output of AI has given birth to **algorithmic decision-making** based on algorithmic decision systems (**ADS**) - a process, which takes data analysis output as the source of inspiration for policies and strategies in the public and private sector.¹⁴ The European Parliament report outlines and describes some possible ADS risks for individuals such as discrimination, unfair practices, loss of autonomy etc.¹⁵ Hence the governments are tasked to protect the core

¹¹ (Data Governance: Organizing Data For Trustworthy Artificial Intelligence)

¹² (*The middle-out approach: assessing models of legal governance in data protection, artificial intelligence, and the Web of Data*)

¹³ (Artificial Intelligence for good)

¹⁴ (Understanding algorithmic decision-making: opportunities and challenges)

¹⁵ (Understanding algorithmic decision-making: opportunities and challenges)

rights of their citizens. It might be insightful to mention that there are also several types of such risks: intentional (following the intentions of ADS operator), accidental (externalities which occur accidentally) and consequences of errors of different types. For further discussion one can take closer look on how risks are perceived and managed by different stakeholders.

Pagallo et al. argues for co-production approach to governance. In practice it implies that norms of open type should substitute traditional closed ones. Open norms can be elaborated on the base of situation context. Pagallo et al. argues that such features are more applicable as they should not be adapted every time when technology is improved or new technology is introduced.¹⁶

Global level of AI governance is lacking cohesion of approach to defining AI, its components and subjects, although some initiatives are already in place. For example, OECD members and some non-members are the only countries who pledge to the OECD Guidelines on the **Protection of Privacy and Transborder Flows of Personal Data**, though they are not legally binding.¹⁷ Secondly, AI ultimately contradicts some key principles: **collection limitation, purpose specification and use limitation**. As it was previously explained, AI relies on big amounts of data and moreover, as in case with online services it is usually collected constantly and seamlessly for the user.

The UNCSTD Resolution of the twenty-second session contains some general overarching provisions on technology for development. Although it does not refer to AI, the committee recognizes potential data privacy threats **mentioning articles 17 and 19 of the International Covenant on Civil and Political Rights 5** on privacy protection. ¹⁸

AI in developed and developing economies

Spending on AI research and development has been growing. As Furman assumes, 36 of 37 developed economies experienced slower economic growth between 2006-2016 in comparison to the 1996-2006 period. Consequently, there were necessary incentives in place to search for the silver bullet to cure national statistics. According to the McKinsey 2017 report companies invested in internal AI projects up to \$27 billion in 2016.¹⁹

¹⁶ (*The middle-out approach: assessing models of legal governance in data protection, artificial intelligence, and the Web of Data*)

¹⁷ (OECD Guidelines on the Protection of Privacy and Transborder Flows of Personal Data)

¹⁸ (Resolution Adopted By The Economic And Social Council On 23 July 2019)

¹⁹ (*Artificial Intelligence The Next Digital Frontier?*)

Opting for a more loose governance mode is expected to attract businesses, those with AI-related projects in particular. Governments would be tasked with the creation of favourable conditions for companies to develop, however, the question is at what expense. As for example, a policy inspired by the GDPR principle of data minimization would not be adopted in Singapore since the state committed to open up for the AI market.

One more problematic question arises: whether new regulations should be created or one should rely on the fundamental law of nature (universal legal framework). Shiff et. el present analysis of 88 papers on AI governance and ethics between 2016 till the second half of 2019.²⁰ According to their observation, Western inter-organizational bodies drive the changes of global ethics policy, sponsored by leading AI countries which are predominantly developed or at least big players in the global arena like China or India. Consequently, it is debatable how public data protection policy will be shaped in smaller AI markets. Winter et al. have pointed out that existing data protection regulation might not be able to cover the scope of machine learning to address personal health information protection.²¹ The authors argue that effective communication between stakeholders is the key and transparent information about health AI should be the priority.

4. Sources for further research

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²⁰ (What's Next for AI Ethics, Policy, and Governance? A Global Overview)

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