UNIVERISTY OF PENNSYLVANIA

SCHOOL OF SOCIAL POLICY AND PRACTICE

MASTER OF SCIENCE IN SOCIAL POLICY AND DATA ANALYTICS

SEMESTER LONG PROJECT - PART #4

FINAL BRIEF

The urgent call for ethical action: addressing the challenges in Facial Recognition Technologies powered by Artificial Intelligence

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1. PROBLEM STATEMENT

Have you ever considered the shocking scope of artificial intelligence in using your facial features to make your life easier? From the simple task of unlocking one's phone with a glance to receiving notifications identifying who is at your front door. Even in the public sector, have you ever wondered how it feels when facial technology decides who can cross borders or board a plane? But here's the intriguing question: what if, instead of being a convenience, would your own face become a factor that could complicate your life?

This is exactly what is happening in the digital age. Accelerated advances in the field of technology have resulted in an unprecedented expansion in the development and use of applications with facial recognition technology (FRT), which is capable of identifying and tracking individuals' facial information.

However, as the use of FRT continues to expand, it is crucial to comprehensively understand its implementation by government and federal agencies and how it affects the rights and freedoms of individuals.

This is highlighted by a recent study conducted in 2021 by the U.S. Government Accountability Office (GAO), entitled "Facial Recognition Technology: Current and Planned Uses by Federal Agencies," which has focused on examining its use by federal law enforcement, at points of entry and in commercial environments, as well as in digital access and cybersecurity, domestic law enforcement, and physical security.

Added to this detailed report is a set of scenarios on how federal organizations (FBI & DMV, CBP & TSA, and NJPD) have indiscriminately and without oversight employed these technologies, in which human beings' civil rights and liberties are severely undermined and even violated due to:

- The inadequate safeguards in place
- Lack of awareness
- Unauthorized consent for facial data collection
- Indiscriminate application
- Insufficient democratic oversight
- Issues of fairness and reliability (including significant racial bias)
- Lack of accountability and transparency measures

- Erosion of anonymity and privacy rights (which are crucial for safety and security)
- Unwarranted intrusion into individuals' lives
- Legal loopholes within regulations.

The pressing nature of these challenges highlights the urgency of upholding privacy, security, and individual rights and ensuring transparent data collection, usage, and storage. An urgent and immediate call to action is essential to establish robust regulations safeguarding individual rights and freedoms.

2. MAIN STAKEHOLDERS AND THREE ALTERNATIVES TO THE PROBLEM

It is imperative that of the six teams that comprise the <u>Office of Science and Technology Policy (OSTP)</u>, responsible for advising the President of the United States on domestic and international science and technology matters, it is the "Technology" team that should take the lead and assume a leadership role in formulating FRT policies that are ethical and comprehensive.

The <u>Technology team</u> is already working to promote and coordinate key federal initiatives and policies on AI, such as the <u>Blueprint for an AI Bill of Rights</u>. However, there is still a long way to go, especially on the FRT front.

Now, the Technology team is in need of an innovative and out-of-the-box vision to address the challenges posed by FRTs, creating a policy that seeks to balance the evolving needs of developers and providers to advance innovation while protecting the rights of individuals and vulnerable communities, taking a step forward for the benefit of society. Among the innovative initiatives that can be provided to the OSTP are:

2.1.THE INTERNATIONAL TREATY ON FACIAL DATA PROTECTION

It is a global and effective solution to regulate the development, deployment, and use of FRT, as well as the collection, storage, processing, and use of biometric data, addressing key issues such as privacy, fairness, and sustainability.

The creation of an international treaty offers remarkable effectiveness, as it is based on a common approach to ensure greater transparency in the use of FRTs, establishing rigorous standards of 99.88% minimum accuracy, imposing financial penalties of a minimum of $2,000,000 for discrimination in the use of FRTs, and requiring transparency reports every six months.

However, implementing this treaty entails significant costs, estimated at more than $1.7 million to create regulations and an average investment of $6,000 to $7,000 per FRT system. In addition, achieving a global agreement, which has national transposition, can be complex and time-consuming.

2.2. HUMAN-CENTRIC MODELS THAT PROMOTE PRIVACY BY DESIGN.

This approach places people and their data at the center of the FRT design, seeking to: 1) understand who will be the end user for whom the FRT is to be intended; 2) what privacy measures will be applied to the data (such as anonymization measures, federated learning, de-identification, and biometric encryption); 3) guarantee privacy principles and the protection of human rights in an ever-evolving technological environment.

In other words, human-centered models prioritize fairness and privacy protection. Although they decrease discrimination by 40%, this approach may result in a 20% decrease in accuracy due to the reduction of available personal data. In addition, the proper development and implementation of these models requires additional investment in human training and acquisition of advanced software and hardware, which entails additional costs reaching $750,000.

Despite this initial challenge, in the long term, a 15% increase in efficiency is expected due to the growth in understanding and development of these models. In addition, it promotes equity by giving individuals greater control over their biometric data and protecting their rights. This approach also encourages more sustainable practices by reducing energy used in processing by 15%.

2.3. INDIVIDUAL CONSENT FORMS:

Individuals have the power and right to give explicit consent (by signing on paper or digitally) to disclose their data before the FRTs can use it. This alternative places humans at the center of the decision-making process, allowing greater control over their biometric data and promoting the protection of privacy, individual autonomy, and agency.

Implementing individual consent forms increases transparency and awareness about the use of FRTs, leading to a 30% increase in the democratization of the technology as it becomes better known and understood by a wider public. In addition, by collecting only the data allowed by consent, the investment in storage and processing is reduced by 7%, which also promotes greater efficiency in using existing resources.

However, the creation and collection processes can be tedious and lengthy, ensuring accessibility to all individuals, regardless of their level of education or technical knowledge, and inclusion by incorporating multiple languages. This involves designing clear and concise forms that effectively explain how facial data will be collected, processed, and used, as well as the individuals' rights and options regarding consent. All of this could delay several years in adopting more ethical technology.

ALTERNATIVE SELECTED

Considering that an effective and successful solution requires a long-term approach, opting for an alternative that establishes the solid foundations necessary for sustainable progress and lasting benefits is essential.

Therefore, the Technology team of the Office of Science and Technology Policy should prioritize and support the adoption of **the International Treaty on Facial Data Protection. The Treaty** unlocks a shared endeavor that lays the global foundation for achieving an adequate balance between technological innovation and safeguarding people's fundamental rights.

The resulting robust regulatory framework of protection and practical enforceability should address aspects such as:

- Scope of its use, limiting the use of FRT to restricted, specific, and well-defined use cases, and establishing the prohibited/banned use cases.

- Define harmonized standards and ethical guidelines reflecting specific essential requirements for the responsible use of these technologies, emphasizing aspects such as transparency, fairness, and accountability.

- Design training programs for the technical teams that 1) support a model design approach that places the human in the center and 2) prevent programmer biases from being transferred to the models.

- Implement an oversight system focused on 1) Monitoring and supervision through a network of Notifying Authorities and Notified Bodies, which allow for auditing (internally and externally) of the models, technologies, and results; and 2) Placing a whistleblower

protection system where public and private parties can lift the veil on FRTs to demand transparency and accountability.

- Support innovation through regulatory sandboxes where stakeholders can test technologies in safe environments without transferring risks and biases to society.

3. SPECIFIC STEPS FOR IMPLEMENTATION

The United Nations defines "Treaty" as all legally binding agreements between international entities within the realm of international law. These agreements are typically formalized through the affixing of signatures and often necessitate subsequent ratification. Some examples of treaties include those related to peace, border demarcation, extradition, and cooperation in areas such as friendship, commerce, and diplomacy.

To be classified as a "treaty" in the general sense, an instrument must follow a specific process and meet criteria:
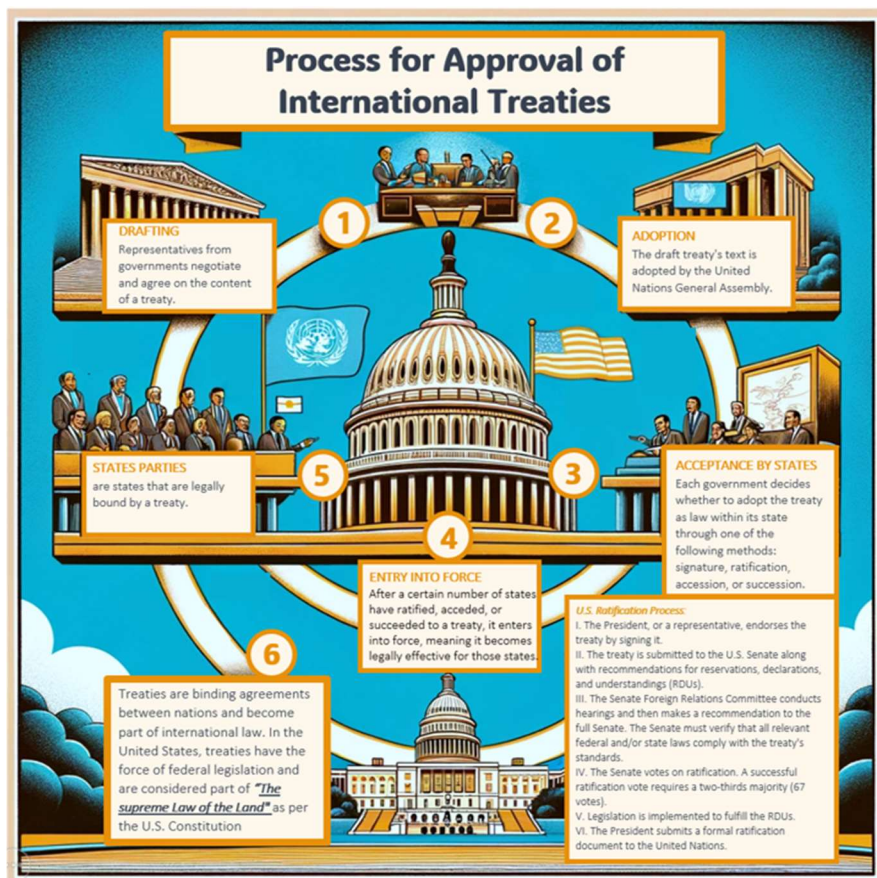
Barragan, R. (2023, December 13). Process for Approval of International Treaties

4. REFERENCES

About treaties. U.S. Senate: About Treaties. (n.d.). https://www.senate.gov/about/powers-procedures/treaties.htm#:~:text=The%20United%20States%20Constitution%20provides,become%20part%20of%20international%20law.

GAO. (2021, August 24). *Facial recognition technology: Current and planned uses by federal agencies*. Facial Recognition Technology: Current and Planned Uses by Federal Agencies | U.S. GAO. https://www.gao.gov/products/gao-21-526

Garcia , M. J. (2010, January 26). *International law and agreements: Their effect upon U.S. law*. Federation Of American Scientists. https://sgp.fas.org/crs/misc/RL32528.pdf

Harwell, D. (2019, July 7). FBI, ICE find state driver's license photos are a gold mine for facial-recognition searches. *The Washington Post*. https://www.washingtonpost.com/technology/2019/07/07/fbi-ice-find-state-drivers-license-photos-are-gold-mine-facial-recognition-searches/

New Jersey v. Francisco Arteaga (June 7, 2023). A-3078-21. Superior Court Of New Jersey Appellate Division. https://www.njcourts.gov/system/files/court-opinions/2023/a3078-21.pdf

New York Civil Liberties Union Foundation (2020). *ACLU V. DHS — Face Recognition Surveillance Complain. United States District Court Southern District Of New York* [Complaint For Injuctive Relief]. Aclu V. Dhs — Face Recognition Surveillance Complaint.

The United States Government. (2022, November). *Blueprint for an AI bill of rights*. The White House. https://www.whitehouse.gov/ostp/ai-bill-of-rights/

United Nations. (n.d.). *UN, United Nations, UN treaties, treaties*. United Nations Treaty Collection. https://treaties.un.org/Pages/overview.aspx?path=overview%2Fdefinition%2Fpage1_en.xml