

# Datafication



and

# Democracy



**Workshop Series**

## **Standards and Norms at IEEE**



DataPrivacyBR  
Research

**September 27th**

**10am GMT - 3**

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### **Guest Speaker**

**Prof. Dr. Edson Prestes**  
**Federal University of Rio Grande do Sul**

## **REPORT**

### **WORKSHOP: STANDARDS AND NORMS AT IEEE**

**Report of the 1st workshop on the workshop series promoted by the Data  
Privacy Brasil Research Association**

**September 27th, 2022**

## **STANDARDS AND NORMS AT IEEE**

The standards-making process at IEEE (Institute of Electrical and Electronics Engineers) and ways to activism in this institution were the general mottoes of a workshop that Data Privacy Brasil Research Association organized in September 27th. In this virtual meeting, which counted on the presence of Global South's digital rights activists, the participants had the chance to discuss the topic with Professor Edson Prestes, who led an exposition and contributed to a Q&A moment with the audience.

This learning session was the first of a series of workshop format events that Data Privacy Brasil Research Association is promoting for the following months within a new global project we are conducting, regarding datafication and the Global South. The main goal of this series is to discuss and generate engagement of Global South's digital rights activists in key institutional spaces that are talking about policies and/or technical standards that impact the future of datafication and democracy.

As examples of these institutional spaces, we could mention international organisms, such as the World Bank, which potentially has the power to influence decisions about technology policy globally. Not limited to that aspect, the series scope may cover related standards-making groups, such as the IEEE and many other technical institutions. The idea that these organizations have a high technical profile, which usually characterizes all these circles, is a barrier to entry and participation of different stakeholders (especially civil society). This condition reinforces the importance of broadening the discussion and exchanging knowledge in this field.

Departing from that perspective, the first encounter focused on IEEE, a professional electronic and electrical engineering association founded in 1963. More specifically, this first encounter paid more attention to the IEEE Robotics and Automation Society, founded in 1987 and more interested in applied and theoretical issues in robotics and automation, a domain in which Professor Prestes has immense experience.

The workshop's structure was very straight to the point. The central idea was to reserve about 40 minutes of presentation, led by professor Prestes covering the general standardization process conducted by the IEEE Robotics and Automation Society (IEEE-RAS). More than that, the presentation highlighted some relevant standards and a global initiative in ethics and AI and Positive Planet 2030 (which focuses on emerging

technologies and sustainability). The presentation also covered ways and mechanisms of engagement for digital rights activists at IEEE's activities. Afterward, we jumped to a Q&A plus an open discussion moment.

The main goals of the workshop were:

- To map the debates and understand the general structure of the IEEE;
- To discuss opportunities and ways to engage with the IEEE decisions.

### **Human rights activists and technical experts must walk together**

Connecting human rights activists with technical experts is essential in the digital age. That way, this workshop was set as a safe locus for conversations and collective thinking between digital rights and the technical standards field. We all believe that we work better when sharing our forces. It was not expected to be a closed or frigid meeting or an up-down appointment session. However, we aimed to promote a horizontal conversation in which we all could talk and learn.

In this sense, the conversation proved very rich, opening different windows and opportunities to strengthen our ties. Professor Prestes, the guest speaker of this conversation, has been a Professor at the Federal University of Rio Grande do Sul (BR), since 2005, and Head of the Robotics Research Group at the same University. He is also an IEEE Senior Member of the IEEE Robotics and Automation Society (IEEE RAS) and IEEE Standards Association (IEEE SA). Over the past years, he has been working on different international initiatives related to Artificial Intelligence, Robotics, Human Rights, and Ethics as a Member of the UNESCO Ad Hoc Expert Group (AHEG) for the Recommendation on the Ethics of Artificial Intelligence, Member of the UN Secretary-General's High-level Panel on Digital Cooperation, among many other titles on technology field. Professor Prestes, in addition to high technical expertise, has been reflecting for some years on the impacts of his field on human rights. In this context, he began to think about how to increase ethics in the design of AI-based systems. Since then, more attentive to discussing ethics and human rights in its technical debates.

Thinking about favoring a network in this agenda, we sent the invitations for this workshop to partner NGOs in Latin America, Africa and Asia. In addition to the invited

organizations, we leave the event open for registration, which should be continued for the next meetings. This way, anyone interested in the topic could build the reflections with us.

### **How IEEE is structured?**

The IEEE is the world's largest technical professional organization dedicated to advancing technology for the benefit of humanity (its roots go back to 1884). Currently, the IEEE has more than 400,000 technology and engineering professionals. The organization is structured into:

- Local sections within geographic regions;
- Chapters comprised of local members with similar technical interests;
- Societies and technical councils that compose technical divisions;
- Student branches at colleges and universities around the world;
- Student branch chapters; and affinity groups.

### **What has been discussed, and what is the standards development life cycle?**

Professor Prestes explained that, strictly speaking, "standards are published documents that establish specifications and procedures designed to maximize the reliability of the materials, products, methods, and/or services people use every day." That way, standards address a range of issues, including but not limited to various protocols to help maximize product functionality and compatibility, facilitate interoperability and support consumer safety and public health.

The IEEE categorizes its standards projects into four types. The first one, named Standards, works as documents with mandatory requirements. The second, Recommended practices, fulfill the role of presenting the procedures and positions preferred by IEEE. The third category is the guides, in which alternative approaches to good practices are suggested, without no clear recommendations. Finally, the fourth category is the Trial-use documents, comprising publications for not more than three years.

That said, professor Prestes highlighted that the standards development are guided by eight principles: 1) Direct Participation; 2) Due Process; 3) Broad Consensus; 4) Balance; 5) Broad Openness; 6) Coherence; 7) Development Dimension; and 8) Transparency.

As professor Prestes pointed out, in general terms, the standards development lifecycle has four years until the objective part of the process (the publication of the standard). This process includes the formation of the idea, the first stage, passing through the phases of: (i) approval of the project; (ii) development of the working group standard draft; (iii) public review; (iv) approval by the IEEE board; (v) the publication of the standard.

Regarding the discussions that are taking place within the IEEE, professor Prestes commented that there are several works in process. In sequence, he highlighted some initiatives, emphasizing one he is a part of, the ontological standards for ethically driven robotics and automation systems.

### **Who can engage?**

In the end, the event took on a more inviting dynamic, with the audience's participation, who asked questions. The main point addressed referred to the possibility of effective engagement by civil society. In this regard, Professor Prestes explained that, despite the organization's technical profile, **the participation of specialists from other areas is encouraged. More than that, it is necessary.** Prestes continued by commenting that undoubtedly the standardization processes face or end up going through questions from other fields, which reinforces the need for broad and open dialogues so that the decisions taken follow the central objective of benefiting humanity.

Originally aimed at the industry, **the IEEE standards are beginning to expand to policy topics and recommendations**, with the addition of having a body of experts that is open to the multistakeholder model, while having the tradition and legitimacy of technical experts. Many of the proposals being discussed today in this forum are the same concerns of civil society entities engaged with digital rights: transparency of autonomous systems, algorithmic biases, and processes of privacy and use of personal data.

There was a question about the role of academics in this process, and also a question about collaboration between the different working groups. Professor Prestes explained that standards usually start with ideas from academics or people in the industry. But to translate

this idea to the working group, a diversity effort is needed, which requires multistakeholder participation. Generally, input on what is needed to implement the standard in the real world. About working between groups, there is a complex structure that manages collaboration - there are some overlaps, which are worked on to converge at some points.

According to Professor Prestes, standards have mandatory requirements, for a more industry-specific audience, while international organizations such as OECD, UNESCO, and ITU focus more on recommendations to governments. But this is undergoing a transformation within the IEEE itself, such as the establishment of figures such as certification agents, linked to governments, that is, **the institution is working on standards that can be used at a political level.**