Authors:
Afra Ece Kaya
Luciano Martin Duarte Castineira
Maja Czarnecki
Szymon Piotr Vogiatzis

Risk Categorization in the AI Act: Perspectives and Practical Approaches

This poster shows the perception of different stakeholder groups concerning the classification criteria under the AI Act and challenges related to their feasibility and operability. Regulation (EU) 2024/1689 of the European Parliament and of the Council laying down harmonised rules on artificial intelligence - the so-called AI Act - puts in place a risk-based classification framework that should assure accountability, compliance, and oversight while encouraging innovation in AI systems with social interests in focus [1]. It categorizes AI systems into unacceptable, high-risk, limited risk, and low/no risk, defining requirements based on potential effects caused to health, safety, or fundamental rights [1, 2].

This study showed large differences among the perceptions of stakeholders. Policy-makers seek a balance between safety, ethics, and market competitiveness [2]. Simultaneously, they are concerned about ambiguities in definitions and their impact on global competitiveness [6]. Businesses, particularly SMEs, stress the difficulties of compliance with the Act and the principle of fair treatment [8], while large firms raise the issue of effective obligation management [7]. Developers need clear criteria and conciseness of rules to guide them in handling regulatory challenges without losing innovation [9]. Users would like AI systems to be transparent, fair, and trustworthy, with a focus on privacy. Civil society organizations are advocating for stronger oversight and the inclusion of societal hazards and ethical considerations in the framework [7, 10]. The major challenges involve uncertainties in terminology [12, 14], subjective interpretations of risks [12], and trade-offs between under- and over-regulation [13]. Besides, the dynamic and sophisticated nature of AI systems complicates compliance issues [16], and a lack of harmonization within the EU member states results in discrepancies in enforcement [13]. The problems are magnified by the low resources and experience of regulatory organizations [14].

Results indicated that what was called for are clear classification guidelines, continuous updating in response to changes in technology, and harmonized technical standards [16, 17]. Other measures may be necessary to further support SMEs in accessing technical assistance centers for comprehensive regulatory training [13, 15]. This research, therefore, also underlines the need for dynamic risk assessment frameworks facilitated by stakeholder collaboration for the effective operation of the AI Act [18]. By understanding these problems, the Act will be able to achieve its dual objectives of promotion and support for innovation, trustworthy AI respectful of fundamental rights, ensuring safety, and being consistent with

societal values. These findings have some useful suggestions for strengthening AI governance to ensure long-term inclusion into critical domains.

Poster References:

[1] P. Voigt and N. Hullen, *The EU AI Act: Answers to Frequently Asked Questions*. Springer Nature, 2024. Available: https://doi.org/10.1007/978-3-662-70201-7

[2] European Parliament and Council of the European Union, "Regulation (EU) 2024/1689 of the European Parliament and of the Council of 13 June 2024 laying down harmonised rules on artificial intelligence," Official Journal of the European Union, pp. 1–144, July 2024.

[3] N. Maslej et al., "The AI Index 2024 Annual Report," AI Index Steering Committee, Institute for Human-Centered AI, Stanford University, Stanford, CA, Apr. 2024. [Online]. Available: https://aiindex.stanford.edu/report/.

[4] Ipsos, "Global Views on A.I. 2023," Ipsos Global Advisor, July 2023. [Online]. Available: https://www.ipsos.com/en/ai-making-world-more-nervous.

[5] A. Zhang Yang, "The EU AI Act: Pioneering Regulatory Framework for Artificial Intelligence," *Richmond Journal of Law and Technology*, 23-Jul-2024. [Online]. Available: https://jolt.richmond.edu/2024/07/23/the-eu-ai-act-pioneering-regulatory-framework-for-artificial-intelligence/.

[6] A. Liebl and T. Klein, "AI Act: Risk Classification of AI Systems from a Practical Perspective," appliedAI Initiative, Mar. 2023. [Online]. Available: https://www.appliedai.de/uploads/files/AI-Act_WhitePaper_final_CMYK_ENG.pdf.

[7] European Commission, "White Paper on Artificial Intelligence: Public Consultation Towards a European Approach for Excellence and Trust," 19-Feb-2020. [Online]. Available: https://digital-strategy.ec.europa.eu/en/library/white-paper-artificial-intelligence-public-consultation-towards-european-approach-excellence-and.

[8] A&O Shearman, "Zooming in on AI – #10: EU AI Act – What are the obligations for 'high-risk AI systems'?" *A&O Shearman*, 29-Oct-2024. [Online]. Available: https://www.aoshearman.com/en/insights/ao-shearman-on-tech/zooming-in-on-ai-10-eu-ai-act-what-are-the-obligations-for-high-risk-ai-systems.

[9] J. Kelly, S. Zafar, L. Heidemann, J.-V. Zacchi, D. Espinoza, and N. Mata, "Navigating the EU AI Act: A Methodological Approach to Compliance for Safety-critical Products," *arXiv preprint arXiv:2403.16808*, Mar. 2024. [Online]. Available: https://arxiv.org/pdf/2403.16808.

[10] H. Waem, J. Dauzier, and M. Demircan, "Fundamental Rights Impact Assessments under the EU AI Act: Who, What and How?" *Technology's Legal Edge*, 7-Mar-2024. [Online]. Available:https://www.technologyslegaledge.com/2024/03/fundamental-rights-impact-assessments-under-the-eu-ai-act-who-what-and-how.

[11] M. Kop, "EU Artificial Intelligence Act: The European Approach to AI," *Stanford - Vienna Transatlantic Technology Law Forum*, Issue No. 2/2021, Sep. 2021. [Online]. Available: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3930959.

[12] European Commission, "Proposal for a Regulation laying down harmonized rules on artificial intelligence (Artificial Intelligence Act)," Dec. 2021. [Online]. Available: https://eur-lex.europa.eu.

[13] L. Floridi, "The European Legislation on AI: a Brief Analysis of its Philosophical Approach," *Philosophy & Technology*, vol. 34, pp. 215–222, Jun. 2021. [Online]. Available: https://link.springer.com/article/10.1007/s13347-021-00460-9.

[14] M. Veale and F. Z. Borgesius, "Demystifying the Draft EU Artificial Intelligence Act," *Computer Law & Security Review*, vol. 43, p. 105567, 2021.

[15] Future of Privacy Forum, "Analysis of the Proposed EU Artificial Intelligence Act," 2021. [Online]. Available: https://fpf.org.

[16] AI HLEG, "Ethics Guidelines for Trustworthy AI," 2019. [Online]. Available: https://ec.europa.eu.

[17] European Commission, "Artificial Intelligence – Questions and Answers," 1-Aug-2024. [Online]. Available: https://ec.europa.eu/commission/presscorner/detail/en/qanda_21_1683.

[18] F. Heymann, K. Parginos, R. J. Bessa, and M. Galus, "Operating AI systems in the electricity sector under European's AI Act – Insights on compliance costs, profitability frontiers and extraterritorial effects," *Energy Reports*, vol. 10, pp. 4538–4555, Nov. 2023. [Online]. Available: https://www.sciencedirect.com/science/article/pii/S2352484723015494

[19] J. Laux, "Institutionalised Distrust and Human Oversight of Artificial Intelligence: Towards a Democratic Design of AI Governance under the European Union AI Act," *AI & Society*, vol. 39, pp. 2853–2866, 2024. [Online]. Available: https://link.springer.com/article/10.1007/s00146-023-01777-z.

[20] C. Novelli, F. Casolari, A. Rotolo, M. Taddeo, and L. Floridi, "Taking AI Risks Seriously: a New Assessment Model for the AI Act," *AI & Society*, vol. 38, no. 3, 2023. [Online]. Available: https://doi.org/10.1007/s00146-023-01723-z.