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Europe's Artificial Intelligence Act: Setting a Global Standard for Safe and Ethical Artificial Intelligence

AUTHOR Rahul Sundaram

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The European Union has taken a monumental step toward managing artificial intelligence (AI) with the recent enactment of the **Artificial Intelligence Act**, Regulation (EU) 2024/1689, the world's first legally binding regulation targeting the safe and ethical deployment of AI systems.

The Act establishes harmonized rules on AI to protect public interests while encouraging AI's safe and trustworthy development within the European Union. The Act aims to provide a regulatory framework that encourages innovation and promotes AI that aligns with EU values, particularly in protecting fundamental rights and preventing harms associated with AI technologies.

Signed into law in June 2024, this pioneering legislation sets a risk-based framework for all AI systems operating within the EU, categorizing them into four levels: unacceptable, high, limited, and minimal risks. The Act represents the EU's vision of a "human-centric" AI approach, aiming to use the benefits of AI while safeguarding fundamental rights and public safety. The AI Act intends to:

- Ensure a consistent, high level of protection for health, safety, and fundamental rights across the EU.
- Prevent market fragmentation by replacing varied national rules with uniform EU-wide regulations.
- Support the free movement of AI-based products and services within the Union.
- Encourage innovation, particularly by encouraging a European ecosystem of AI aligned with human-centric and ethical principles.

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Key Definitions in the Act include

- **AI System:** Machine-based systems with varying degrees of autonomy, capable of making inferences from data and models to generate outputs that can influence their environments, such as predictions, recommendations, or decisions.
- **High-risk AI Systems:** These are systems that could significantly impact safety, health, or fundamental rights in specific sectors like healthcare, law enforcement, and employment. Such systems are subject to rigorous compliance standards.
- **Providers and Deployers:** The regulation applies to those who develop, place, or use AI within the EU market, with specific obligations for different roles in the AI value chain.

A Risk-Based Classification to Tackle AI's Diverse Impacts

The AI Act's regulatory framework breaks new ground by organizing AI systems based on their potential risks:

- **Unacceptable Risks:** These are AI systems deemed too dangerous for public use. This includes AI that manipulates user behavior through subliminal means, systems that exploit vulnerable groups, and specific biometric identification tools that authorities use for remote surveillance. The EU has banned these applications outright, citing high risks to personal freedoms and fundamental rights.
- **High-Risk Systems:** These applications, which could potentially impact public health, safety, or individual rights, are permitted but subject to strict regulation. Examples include AI in healthcare, law enforcement, and transportation sectors. Providers of these systems must adhere to rigorous standards in areas such as data quality, cybersecurity, transparency, and human oversight before entering the EU market.
- **Limited Risk:** Systems in this category, such as chatbots, emotion recognition, and AI-generated content like deepfakes, face transparency requirements. Users must be informed when they are interacting with or exposed to AI-generated material,

promoting informed decision-making.

- **Minimal Risk:** The majority of AI applications fall under this classification and are not subject to further obligations beyond existing EU laws, such as the General Data Protection Regulation (GDPR). This ensures that low-impact AI, like spam filters, can continue to operate without undue burden.

Special Rules for General-Purpose AI

The regulation has distinct provisions for **general-purpose AI (GPAI)** models, which are versatile, often high-impact tools that can be adapted for multiple applications. The EU has set specific transparency and safety obligations for high-capacity GPAI models, especially those likely to pose systemic risks to the internal market or public welfare. Providers must now document and monitor such systems closely, reporting significant incidents and implementing rigorous cybersecurity protocols. For open-source models, the Act provides a partial exemption, promoting innovation while still ensuring responsible use.

Innovation-Friendly Measures

The AI Act also includes measures designed to encourage innovation. One of these is the **regulatory sandbox** — a controlled environment where new AI technologies can be tested under the guidance of regulatory authorities. These sandboxes aim to provide a safe space for experimenting with novel AI applications, without risking GDPR breaches or other compliance issues. The goal is to ensure the EU remains a competitive landscape for AI innovation, encouraging growth while respecting citizens' rights.

Oversight and Enforcement: Heavy Fines for Non-Compliance

To ensure compliance, the Act mandates each EU member state to establish oversight authorities. These bodies will monitor and enforce adherence to the new rules, with the EU's **Artificial Intelligence Office** and the newly established AI Board providing additional guidance and developing industry-wide codes of conduct. Fines for non-compliance are significant: up to €35 million or 7% of a company's worldwide annual turnover, whichever is higher. By imposing strong penalties, the EU seeks to discourage misconduct and ensure that companies take the new regulations seriously.

A Mixed Reception: Industry Concerns and Public Support

The AI Act has generated mixed reactions. Many tech companies and industry groups worry about the potentially stifling effects of heavy regulation on innovation, particularly in high-risk sectors where compliance costs could be prohibitive. Some studies estimate the Act could cost the European economy billions of euros over the next five years, impacting AI investment. On the other hand, civil rights advocates and consumer groups have welcomed the Act's strong framework, seeing it as a necessary measure to prevent abuses in biometric surveillance and other intrusive applications.

Academics and policy analysts have also weighed in, recommending further enhancements, such as a broader definition of "AI systems" and stronger environmental guidelines to address the impact of AI on climate change.

A Global First: Setting the Stage for International AI Regulation

As the first binding law on AI, the [EU's AI Act](#) is likely to have a ripple effect worldwide. While the United States and other global powers have, until now, adopted a more lenient approach, the success of the EU's AI regulation could prompt international bodies to follow suit. Already, countries like the US and China are moving towards stricter AI governance, while organizations like the OECD and UNESCO have established non-binding guidelines on ethical AI. Through initiatives like the EU-US **Trade and Technology Council**, the EU is also working to align its regulations with international counterparts, especially as dual-use applications in military AI gain global attention.

Conclusion: A New Era of Accountable and Ethical AI

The AI Act has set a bold example for responsible AI governance, reflecting the EU's commitment to a human-centred approach that balances innovation with safety and ethics. With its comprehensive, risk-based structure, the Act is more than just a regulatory framework; it's a call to action for global tech industries to develop AI systems that respect fundamental rights and democratic values. As AI technology continues to evolve, the EU's legislative leadership on this front could be pivotal in establishing international standards that promote trustworthy, transparent, and accountable AI worldwide.