

## Artificial Intelligence, Transparency and Importance of Explainable AI

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From the virtual assistants in our smartphones to the self-driving automobiles on our roadways, artificial intelligence (AI) is becoming more and more pervasive in our daily lives. Also, a variety of industries, including healthcare, banking, retail, and manufacturing, are using AI technology. It is critical to assess the current level of the technology and its possible effects on society as the usage of AI increases. We'll examine some of the most important data on artificial intelligence in this editorial.

The worldwide AI market is anticipated to increase from \$58.3 billion in 2021 to \$309.6 billion in 2026, at a compound yearly growth rate of 39.7%, according to a recent analysis by Markets and Markets. Big data analytics, increased acceptance of cloud-based AI services, and rising interest in chatbots and virtual assistants with AI capabilities are some of the drivers fueling this growth. With a predicted CAGR of 44.9% from 2021 to 2026, the healthcare business is anticipated to be one of the fastest-growing industries for AI. The growing application of AI in drug development, medical imaging, and customized medicine is fueling this increase. A estimated CAGR of 41.1% for the financial services industry from 2021 to 2026 indicates that it will likewise be a significant adopter of AI. In this sector, artificial intelligence (AI) technologies are employed for fraud detection, risk management, and customer service. There is a lot of potential for both beneficial and harmful effects on society in the quickly expanding fields of AI's impact on the labor market, facial recognition, deepfake, and cyberattack. As AI develops, it is crucial that creators, decision-makers, and the general public collaborate to make sure that new technologies are created and applied in a way that is open, equitable, and helpful to all.

On the other hand, a lack of transparency and comprehensibility in AI systems can have negative effects. For instance, Amazon was forced to abandon its AI hiring tool in 2018 when it was discovered to be prejudiced towards women. The AI system was developed using data from resumes that were primarily submitted by men over a ten-year period and sent to Amazon. The AI system subsequently discovered that it prefers male applicants to female ones. This emphasizes the demand for Explainable Artificial Intelligence (XAI) systems that can be checked for bias and fairness through auditing and testing.

XAI is a rapidly growing field that aims to develop AI systems that can be understood and interpreted by humans. XAI's goal is to ensure transparency, explainability and accountability of AI systems. This is essential to building trust in these systems and ensuring they are used in a fair and ethical manner. In this editorial, we take a look at some of the key statistics surrounding explainable AI.

According to a recent report by Grand View Research, the global XAI market is expected to grow from \$1.6 billion in 2020 to \$25.5 billion in 2027, a CAGR of 44.3%. This growth will be driven by factors such as increasing adoption of AI technology, increasing demand for transparent and explainable AI systems, and increasing regulatory requirements for ethical AI.

The healthcare sector is expected to be one of the fastest growing markets for XAI, with a projected CAGR of 50.2% from 2020 to 2027. Explainability is key, and transparency is key to ensuring patient safety and regulatory compliance. The financial services sector is also expected to be a major adopter of XAI, with a CAGR of 44.1% from 2020 to 2027. Transparency is important to ensure regulatory compliance and consumer confidence. In addition to ethical considerations, XAI is becoming increasingly important from a legal and regulatory perspective. The European Union's General Data Protection Regulation (GDPR) requires individuals to have the right to know how decisions that affect them are being made, including those made by AI systems. GDPR also requires that individuals have

the right to challenge decisions made by AI systems. To comply with these regulations, the XAI system is essential. The economic costs of AI system failure can also be substantial. According to IBM's report, the average cost of a data breach in 2020 was \$3.86 million. The XAI system helps prevent these errors by providing transparency and interpretability. This allows you to identify errors and fix them before they become major problems. The potential benefits of XAI are enormous. For example, healthcare can use XAI systems to improve the accuracy of medical diagnoses and treatment recommendations. The XAI system can also be used to improve the accuracy and fairness of credit scores. This can reduce discrimination and improve access to credit for marginalized groups.

Finally, the importance of XAI is also reflected in increased investment in this area. According to a report by Research And Markets, the XAI market is projected to grow from \$527 million in 2019 to \$9.6 billion in 2025, with a compound annual growth rate of 46.2%. This growth will be driven by factors such as increasing adoption of AI technology, growing demand for transparency and accountability of AI systems, and the need to comply with legal and regulatory requirements.

In summary, the importance of XAI cannot be overemphasized. XAI systems are essential for the safe, ethical, and transparent use of AI technology in real-world applications. While the potential benefits of XAI are great, so are the risks of using opaque and difficult-to-interpret AI systems. As XAI continues to evolve, it is important that developers, policy makers, and the public work together to ensure that these technologies are developed and deployed in a transparent, fair, and mutually beneficial manner.

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