

## **THE OTHER SIDE OF TECHNOLOGY AND FUTURE IMPLICATIONS**

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**Abstract:** In order to prevent falling victim to them and becoming entangled in their issues, we will examine a few additional facets of artificial intelligence tools in this study.

**Key words:** Technology, AI, Automation technologies.

### **Introduction**

Technology has revolutionized nearly every aspect of our lives, offering convenience, connectivity, and unprecedented advancements. However, as we embrace the benefits, it is crucial to recognize the potential downsides and future implications that accompany our technological progress. This article delves into the dual nature of technology, exploring both its positive contributions and the challenges that lie ahead.

### **Results and discussion**

Artificial Intelligence (AI) has reached unprecedented levels of power and accessibility, evoking a mix of hope and fear regarding its impact. Understanding AI's current capabilities and future implications is essential as we navigate its rapid advancements. The age of AI has arrived, necessitating our attention.

While some envision a science fiction scenario of a conscious supercharged AI threatening humanity, immediate concerns lie in the existing ways AI is being used for manipulation, exploitation, discrimination, and misinformation. AI's power is dual: it solves complex problems but also empowers cybercriminals and authoritarian regimes. The rise of generative AI raises alarm, enabling the mass production of tailored false and persuasive information.

Our vulnerability to AI's negative effects stems from misplaced trust, as we often perceive it as a reliable expert. This trust allows for exploitation and manipulation, as AI convincingly presents falsehoods as truth. It is crucial to focus on real risks rather than getting lost in futuristic fantasies. The emergence of large-scale language models based on deep neural networks has fascinated and worried experts like Geoffrey Hinton, who have raised concerns about malicious use of generative AI.

Throughout history, new technologies have been double-edged swords, advancing civilization while being exploited. AI's complexity poses challenges in understanding and influencing it. We must embark on a learning curve to navigate AI responsibly. Critical questions about AI decision-making, training, biases, and assumptions must be addressed. As AI rapidly develops, society must proceed cautiously, avoiding hype and taking a measured approach to assess their true potential and implications.

Technology has connected the world like never before, enabling seamless communication and access to information. From social media platforms to global networking, connectivity has fostered collaboration, knowledge sharing, and cultural exchange. However, this interconnectedness also raises concerns about privacy, cyber threats, and the digital divide that can exacerbate social inequalities.

Automation technologies, such as artificial intelligence (AI) and robotics, have transformed industries, increasing efficiency and productivity. While this presents opportunities for innovation and economic growth, there are implications for the workforce. Job displacement and the need for upskilling and reskilling pose challenges, requiring proactive measures to ensure a smooth transition and fair distribution of opportunities.

As technology advances, ethical dilemmas emerge. Issues such as privacy invasion, data misuse, and algorithmic bias demand careful examination and regulation. Ethical frameworks and responsible innovation practices must be developed to protect individuals, communities, and societal values as technology continues to evolve.

The rapid growth of technology has not been without consequences for the environment. Energy consumption, electronic waste, and carbon footprints associated with manufacturing and disposal pose sustainability challenges. Striking a balance between technological progress and environmental stewardship will be crucial for a sustainable future.

While technology has enhanced healthcare, enabling better diagnosis, treatment, and patient care, there are concerns about its impact on mental and physical well-being. Excessive screen time, social media addiction, and sedentary lifestyles raise questions about the long-term effects on human health. Striving for a healthy relationship with technology and promoting digital well-being will be essential.

Looking ahead, emerging technologies such as quantum computing, biotechnology, and nanotechnology hold immense promise and potential risks. From advancements in personalized medicine to ethical implications of genetic engineering, the future landscape presents complex challenges that require thoughtful regulation, public discourse, and interdisciplinary collaboration.

### **Conclusion**

Technology serves as a powerful force for progress, connectivity, and innovation. However, we must critically examine its dual nature and anticipate the implications that lie ahead. By proactively addressing ethical concerns, prioritizing sustainability, fostering digital well-being, and preparing for workforce transformations, we can shape a future where technology serves as a catalyst for positive change while mitigating potential risks. It is through responsible stewardship and collective efforts that we can navigate the other side of technology and build a more inclusive, sustainable, and ethically grounded future.

## **A DATA AUGMENTATION BASED DEEP LEARNING APPROACH FOR DEEFAKE IMAGE DETECTION**

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**Abstract:** Deepfake technology, pushed by advanced deep learning algorithms, poses a serious threat to the integrity of visual content, potentially leading to misinformation, propaganda, and fraudulent evidence fabrication. Our research proposes a rigorous framework for real and deepfake picture recognition. The suggested approach merges a transformer-based model, notably the Vision Transformer (ViT), coupled with fine-tuned Convolutional Neural Networks (CNNs).

**Key words:** Index Terms—deepfake, deep learning, transformers, convolutional neural network.

### **Introduction**

The ability to create digital graphics that look very realistic using few resources and easily available online instructions has led to the creation of numerous audio, video, and image files that are not authentic [1]. Deepfake uses deep learning to create altered photographs that are difficult to tell apart from real ones by incorporating a synthetic face into an original image. Deepfake generation has been made even easier by recent developments in fields such as Generative Adversarial Networks (GANs) [2]. The capacity to influence digital media in extremely undetectable ways has resulted in the spread of false information, thanks to the convergence of cyber threats, artificial neural networks, and machine learning classifiers. Given deepfake images' potential worldwide influence and the extent to which they can jeopardise society's security and stability, the development of automated systems capable of identifying them has become vital. Convolutional Neural Networks (CNN) provide a trustworthy way to rapidly evaluate these automatically created false images [3].

### **Results and discussion**

With an impressive 98% accuracy, the Vision Transformer (ViT) model blew away competitors VGG16 and Inception V3. The model's remarkable capacity to accurately categorize both deepfake and real images was further demonstrated by its 98% precision. The confusion matrix