



Driving Sustainability with Engineering solutions  
Embracing the latest AI driven Technologies

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## Overview of Sustainable Development Goals (SDGs)

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# Introduction to AI for Sustainable Development Goals

- SDGs encompass a diverse approach to development, with research focused on the Prosperity section and industrial changes due to AI implementation.
- Studies discuss industrial barriers hindering effective technology application and relationships between companies, partners, and customers.



# Introduction to AI for Sustainable Development Goals

### **1**

Technical aspect explores algorithms addressing global challenges like healthcare, knowledge, and humanity.

### **2**

Research suggests AI's potential positive impact on achieving SDGs across various sectors, including society, economy, and environment.

# Introduction to AI for Sustainable Development Goals

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- AI has the potential to positively impact the achievement of SDGs, but there are potential negative impacts such as increased inequalities and biases in decision-making.
- Gaps in understanding the specific impacts of AI on different targets within the SDGs have been identified, particularly in societal biases, economic disparities, and environmental sustainability.
- Further research is needed to address these gaps and develop tailored analyses and tools to better understand the role of AI in achieving the SDGs.

# Introduction to AI for Sustainable Development Goals

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- Challenges include the potential for AI to exacerbate inequalities, increase energy consumption, and lack transparency and ethical oversight.
- AI presents opportunities to enable the achievement of many SDGs, particularly in the areas of society, economy, and environment.
- It can support the provision of essential services, promote low-carbon systems, and contribute to sustainable development.

## AI Applications for specific SDGs

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- AI can assist in predicting and preventing health issues related to poverty and hunger.
- AI applications can help in information verification and validation for sustainable development initiatives.
- AI has the potential to contribute significantly to poverty eradication and zero hunger through various applications and initiatives.

## AI Applications for Specific SDGs

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- AI can personalize learning experiences for students, catering to individual needs and abilities.
- AI can provide access to educational resources in remote or underserved areas.
- AI can assist in the assessment of student progress and the identification of areas where additional support may be needed.

## AI Applications for Specific SDGs

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- AI enables the analysis of large-scale interconnected databases to develop joint actions aimed at preserving the environment.
- AI supports the understanding of climate change and modeling its possible impacts.
- AI can be used to improve the health of ecosystems, combat desertification, and restore degraded land and soil.



## Ethical and Social Implications of AI in SDGs

**1**

AI's potential to enable SDGs by improving efficiency and decision-making

**2**

Ethical concerns related to AI's negative impacts on privacy and biases

# Ethical and Social Implications of AI in SDGs

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Ethical considerations in AI applications for SDGs



Importance of aligning AI applications with principles of fairness and human rights



Need for regulatory oversight to ensure responsible and sustainable AI development

## Ethical and Social Implications of AI in SDGs

**1**

Influence of human factors such as culture and cognitive biases on AI adoption

**2**

Leveraging AI to drive positive social, environmental, and economic outcomes

## Ethical and Social Implications of AI in SDGs

**1**

Exploring impact of AI on job displacement and creating new job opportunities

**2**

Understanding cultural dimensions and biases for inclusive AI-driven solutions

## Ethical and Social Implications of AI in SDGs

**1**

Potential of technological advancement to improve human welfare and provide new opportunities

**2**

Creating regulations and guidelines to ensure beneficial use of technological advancements

Balancing technological advancement with human welfare

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## Ethical and Social Implications of AI in SDGs

- Considering potential impacts of new technologies on different groups within society
- Harnessing technological advancement to improve human welfare while being mindful of potential risks

# Identifying gaps in AI research for SDGs

## Research Challenges and Opportunities

- Need for more long-term studies to assess real-world impacts of AI
- Development of methodologies to ensure impact assessment from the perspectives of efficiency, ethics, and sustainability
- Promotion of cooperation and limitation of control of citizen behavior through AI

The infographic is divided into several sections:

- Top Left:** A pie chart with segments labeled 'Scientific Research', 'Technological Research', and 'Business Research'. Below it, an illustration of a person sitting at a desk with a computer, with the text 'From Ideation to Monetization'.
- Top Center:** A wireframe head profile with the text 'ARTIFICIAL INTELLIGENCE' and 'Economic Development Corporation' below it.
- Top Right:** Text describing the AIAC's mission to support ideas, followed by icons for a building, a database, and an eye.
- Middle Left:** A bar chart comparing 'AI' and 'Traditional' across various countries, with the text 'AI has the potential to double annual economic growth rates...'. Below it, a small text box says 'Real GDP value added with AI, 2020-2030'.
- Middle Center:** Six circular icons representing different AI-related concepts. Below them, text states: 'Overall, AI is expected to unleash remarkable benefits across countries, countering dismal economic growth prospects and redefining "the new normal" as a period of high and long-lasting economic growth'.
- Middle Right:** A bar chart titled 'United States' comparing 'AI' and 'Traditional' growth. Text below reads: 'A strong entrepreneurial, business climate and advanced infrastructure position the United States to benefit from the economic potential of AI. Accenture research forecasts a significant increase in United States GDP growth from 2.6 percent to 5.6 percent by 2035...'. Below the chart, a legend indicates 'AI' and 'Traditional'.
- Bottom Center:** A large red equation:  $IA > M1 \cdot IC + AI = W$ . Below it, text explains: 'According to Accenture LLP research on the impact of AI in 12 developed economies reveals that AI could double annual economic growth rates in 2035 by changing the nature of work and creating a new relationship between man and machine. The impact of AI technologies on business is projected to increase labor productivity by up to 40 percent and enable people to make more efficient use of their time.'
- Bottom Right:** A diagram showing a flow from 'TRADITIONAL GROWTH MODEL' to a box containing 'Capital', 'Labor', and 'Innovation'. An arrow points to a box with a lightbulb icon, with text: 'The Creator's idea receives actual money in the form of cryptocurrencies like Bitcoin, Litecoin or Monero Coins from the Artificial Intelligence Economic Development Corporation — as the idea progresses through additional stages.' Below this, another text box says: 'If the idea is at the first stage, this amount of cryptocurrency will not be as substantial as when the idea is much more progressed. The amount of cryptocurrency can be stored or'.

## Research Challenges and Opportunities

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- More research on the impact of AI on institutions and legislation regarding transparency and accountability of AI
- Adoption of decentralized AI approaches for more equitable development



## Research Challenges and Opportunities

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- Forming interdisciplinary research teams
- Creating interdisciplinary research centers or institutes
- Establishing interdisciplinary research networks

Funding and resource allocation for AI-driven sustainable development projects

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## Research Challenges and Opportunities

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- Variety of sources including government grants, private investments, corporate sponsorships, and non-profit organizations
- Funding from international bodies and institutions supporting sustainable development initiatives

Funding and resource allocation for AI-driven sustainable development projects

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## Research Challenges and Opportunities

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- Careful planning and consideration of specific needs and goals of each initiative
- Partnerships and collaborations between different stakeholders to leverage resources and expertise

## Future Outlook and Conclusion

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- Use of AI in smart farming and precision agriculture
- Application of AI in smart health and precision medicine
- Potential to improve crop management, resource use, and personalized healthcare

Potential for transformative impact on global development

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## Future Outlook and Conclusion

**1**

Assistance in achieving each of the Sustainable Development Goals (SDGs)

**2**

Optimizing resource consumption and reducing pollution

**3**

Enhancing industry performance, reducing inequalities, and promoting sustainable communities

Call to action for researchers to contribute to AI-driven sustainable development

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## Future Outlook and Conclusion

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- Focus on the ethical and responsible use of AI
- Address global challenges such as climate change and inequality
- Develop innovative solutions that promote social, environmental, and economic well-being

**THANK  
YOU**

