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résumé des articles L0 Nour

The Ethical Considerations of Business Artificial Intelligence Exploration Through the Lenses of the Global AI Technology Acceptance Model

The study delves into the ethical dimensions of incorporating Artificial Intelligence (AI) technology in business contexts. By utilizing the Global AI Technology Acceptance Model and Innovation Resistance Theory, it aims to gain insights into the factors that influence AI adoption and address the ethical concerns surrounding AI development and deployment. The study places a strong emphasis on the need for responsible AI usage, especially in light of the rapid advancements in technology.

To provide a historical context and highlight the significance of innovation for organizational survival, the study draws upon examples such as Xerox and Netflix. These examples demonstrate how innovation has played a pivotal role in shaping the success and longevity of organizations. Additionally, the study explores various innovation models and underscores the importance of effective innovation management, with a specific focus on IT investment strategies.

In conclusion, the study highlights the correlation between effective innovation management, organizational performance, and the potential for AI-driven innovations to foster positive social change. It underscores the importance of understanding the ethical implications of AI adoption and the need for responsible AI usage in order to harness the full potential of AI technology in a way that benefits both organizations and society as a whole.

Towards Green AI. A methodological survey of the scientific literature

The paper explores the concept of "Red AI" and "Green AI" and compares their environmental impacts. Red AI tends to consume high energy, while Green AI focuses on efficiency and sustainability. Factors like computer architectures and algorithms contribute to Red AI. The study proposes methodologies for surveying literature on both Red and Green AI, highlighting the importance of balancing AI performance with environmental concerns. It also emphasizes the need for environmentally conscious AI development.

Verdecchia et al. survey the landscape of Green AI, emphasizing environmentally conscious development and IEEE standards. Salehi et al. stress the importance of data benchmarks. Siegmund et al. propose energy-saving techniques in software systems. Gutierrez et al. discuss balancing operational requirements with energy efficiency in ML models. The study examines algorithms and techniques to reduce the computational complexity of deep learning models, such as distillation, residual connections, depthwise separable convolution, weight sharing, acceleration techniques, parameter pruning, and mini-batch stochastic gradient descent. It also analyzes the environmental impact of models like BERT, GPT, PaLM, and BigGAN.

Optimization techniques in Green AI include distributed training, transfer learning, progressive learning, mixed precision training, sparsity models, model compression, and

knowledge distillation. These methods aim to reduce training time, optimize resources, and minimize energy consumption while maintaining model performance.

Real-time tracking of renewable carbon content with AI-aided approaches during co-processing of biofeedstocks

The abstract introduces a new approach that uses interpretable deep neural networks, robust linear regression, and bootstrapping techniques to estimate the renewable carbon content in co-processed fuels in real-time. This method, based on a large dataset from refineries, aims to support the decarbonization of the oil refining industry by reducing emissions and aiding the transition to sustainable energy.

In the introduction, the study discusses the importance of decarbonization and the role of co-processing bio feedstocks in reducing emissions. It also highlights the limitations of current techniques and the potential of AI technology for real-time monitoring.

The study outlines the theoretical innovations, dataset contributions, and practical implications. It emphasizes the integration of AI and robust regression for accurate estimation and the value of the extensive refinery dataset for informed decision-making.

Detailed sections cover co-processing at the FCC, AI for renewable carbon tracking, data gathering, and preprocessing. The conclusion emphasizes the efficiency and accuracy of the method in estimating renewable carbon content, which can lead to significant cost savings for refineries.

Artificial intelligence and corporate carbon neutrality: A qualitative exploration

The study delves deep into the fascinating realm of how companies utilize Artificial Intelligence (AI) to achieve their Corporate Neutrality (CN) targets. It uncovers four key dimensions that play a crucial role in this process: implementation, trade-offs, impediments, and impact.

When it comes to implementation, companies are harnessing the power of AI for various purposes such as emission control, process optimization, and resource conservation. These applications showcase the transformative potential of AI in driving sustainability and making a positive impact on the environment. However, it's not all smooth sailing for companies adopting AI for CN. They face the challenge of navigating trade-offs between financial viability, governmental support, and social considerations. Balancing these factors can be quite a juggling act!

Moreover, there are certain impediments that can hinder the seamless integration of AI into the CN framework. These include organizational culture, resistance to change, and concerns related to data security. Overcoming these hurdles requires proactive strategies and a willingness to adapt.

But fear not, because despite the challenges, the adoption of AI brings tangible benefits to companies. It enhances business efficiency, streamlines operations, and ultimately helps them achieve their CN targets. The study proposes a convergence-divergence model that

provides a comprehensive framework for understanding the role of AI in CN. This model serves as a valuable guide for both researchers and practitioners in the field.

Practical recommendations stemming from the study include advocating for government funding to support AI initiatives, addressing stakeholder resistance through effective communication, and prioritizing skill development to ensure a smooth transition towards AI-driven practices.

While the study offers valuable insights, it also acknowledges its limitations. For instance, it suggests the need for sector-specific insights and hypothesis testing to further refine our understanding of AI's impact on CN targets. This opens up exciting opportunities for future research in this rapidly evolving field.