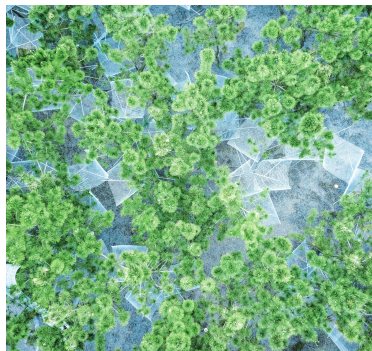




刊首语

人工智能与风景园林



近几年，随着语言模型 ChatGPT 和文生视频模型 Sora 的陆续推出，以大模型为代表的人工智能迅速从实验室走向千行百业，引起了人们的广泛关注。有人把人工智能比作水，预言它将滋润万物；有人则把它比作电，期待它为一切行业赋能。

人工智能，这一术语最早于 1956 年在达特茅斯学院（Dartmouth College）召开的“达特茅斯人工智能暑期研讨会”上提出，主要研究如何使用计算机模拟人的学习、推理、思考、规划等思维过程和智能行为。自此以后，人工智能的概念不断扩展，并在半个世纪以来稳步发展。近年来，随着计算机的计算能力的提升和数据资源的丰富，大规模预训练语言模型，特别是生成式预训练模型（GPT），迅速进入大众视野。

目前，人工智能已广泛应用于医疗、金融、交通、教育等多个行业。在医疗领域，人工智能应用于智能诊断、医疗影像分析等，提高了诊断的准确性和效率；在交通领域，人工智能则助力智能交通管理和自动驾驶，提升了道路通行效率和安全性；在金融领域，人工智能可以用于风险控制和反欺诈等，提高了金融服务的效率和安全性。人工智能正逐渐如水和电一般，赋能各个行业，降低成本，提高生产效率。

作为涉及多学科、多知识的应用科学，风景园林同样可以受益于人工智能的发展。风景园林的研究和实践过程较为复杂，涉及科学理性分析、规划设计、施工、评价等多个环节，而人工智能则能够作为辅助工具，在这些场景中发挥重要作用。在分析阶段，人工智能可以辅助分析气候、地理、水文等自然要素和历史文化、人口数据等人文信息；在设计阶段，人工智能工具可以辅助设计师完成图纸的绘制、方案的自动建模等工作，减少重复性劳动，使设计师能更专注于设计和创意本身；设计完成后，人工智能还可以辅助完成绩效和指标的计算，快速获取数据，判断设计目标的实现程度。通过预训练，大语言模型可以快速完成风景园林专业规范、导则等内容的问答，亦能给出针对场地的植物选种和配置的建议，从而节省查阅相关资料的时间。如同赋能其他行业一样，人工智能在风景园林领域同样能够扮演好辅助工具的角色，帮助行业降本提效。

此外，在新技术背景下，设计师可以利用大数据和

人工智能算法预测未来环境的变化趋势，从而提出更为智能和可持续的生态系统解决方案。这些方案不仅权衡了当下人类与生态系统之间的需求关系，还能考虑到未来人与自然和谐共生的动态问题。这种前瞻性的分析和预测能力或许是一些传统设计方法难以达到的。

在这一创新过程中，人工智能已不仅仅是一种工具或技术，而是成为连接传统与现代、自然与科技的桥梁。它超越了传统技术的界限，成为一种艺术表达、哲学思考的新途径，以及探索人与自然关系的新方法。

在我看来，人工智能像是个永不停歇的战士，它一方面不断取得新的进展，另一方面又不断向着更有意义、更加困难的目标前进。随着算法和计算能力的不断提升，人工智能也将能更好地理解人类语言、情感和行为，与人类进行更自然的交互，并持续拓展应用场景，不断挑战未解难题，为我们的世界和未来提供更多的可能性。

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2024 年 8 月 21 日

PREFACE

Artificial Intelligence and Landscape Architecture

With the gradually emergence of language model ChatGPT and the text-to-video generative model Sora recently, artificial intelligence (AI) represented by large models has rapidly entered into various industries from laboratories, attracting extensive attention. Some people compare AI to water and predict that it will nourish all things; while some others see it as electricity, hoping it will empower all industries.

The term artificial intelligence was first proposed in 1956 at the “Dartmouth Summer Research Project on Artificial Intelligence” held at Dartmouth College, mainly studying how to use computers to simulate the thinking process and intelligent behavior of human such as learning, reasoning, thinking, planning, etc. Since then, the concept of AI has continuously expanded and steadily developed for half a century. With the promotion of the computing capability of computers and the enrichment of data resources in recent years, large-scale pre-trained language models, especially generative pre-trained transformer (GPT), have rapidly entered people’s life.

At present, AI has been widely applied in numerous industries such as medical service, finance, transportation, and education. For medical sector, AI can be applied to intelligent diagnosis, medical image analysis, etc., enhancing the accuracy and efficiency of diagnosis; For transportation, AI can assist in intelligent traffic control and autonomous driving, improving road traffic efficiency and safety; In the financial field, AI can be applied for risk control and anti-fraud, boosting the efficiency and security of financial services. Gradually becoming as important as water and electricity, AI is able to empower various industries, reduce costs, and improve production efficiency.

As an applied science involving multiple disciplines and knowledge, landscape architecture can also benefit from the development of AI. Covering multiple phases such as logical analysis, planning and design, construction, and evaluation, the research and practice of landscape architecture is quite complex. While as an auxiliary tool, AI will play an important role in these scenarios. In the analysis phase, AI can help to analyze natural elements such as climate, geography, hydrology, as well as human information such as historical culture and population data; In the design phase, AI tools can assist designers in completing tasks such as drawing blueprints and automatic modeling of proposals, saving designers from repetitive labor and allowing them to focus on design and creativity; After the design is completed, AI can also aid the calculation of performance and indicators, quickly obtaining data and judging the realization degree of design goals. Through pre-training, large language model (LLM) can quickly answer the questions such as professional standards, guidelines, and other content related to landscape architecture. It can also provide suggestions for plant selection and configuration based on the situation of sites, saving time in researching relevant materials. AI can also play a good role as an auxiliary tool in the field of landscape architecture, helping the industry reduce costs and improve efficiency, just like empowering other industries.

In addition, with the emergence of new technologies, designers can use big data and AI algorithms to predict development trends of environment, thereby proposing more intelligent and sustainable solutions for ecosystem. These solutions not only balance the current

demand relationship between human and ecosystem, but will also consider the dynamic issues of the harmonious coexistence between human and nature in the future. This forward-looking analysis and prediction capability may be hard to achieve via traditional design methods.

AI is no longer just a tool or technology for such innovation, but has become a bridge connecting tradition and modernity, as well as nature and technology. Breaking the boundaries of traditional technology, AI has become a new way for artistic expression, philosophical thinking, and exploring the relationship between human and nature.

In my opinion, AI is like an out-and-out warrior, constantly making new progress while also advancing towards more meaningful and difficult goals. With the continuous improvement of algorithms and computing power, AI will also be able to better understand human language, emotions, and behavior, interact more naturally with human, and continue to expand its application scenarios, constantly challenging unsolved problems and providing more possibilities for our world and future.

Deputy Editor-in-Chief: ZHAO Jing
August 21, 2024