



Artificial Intelligence Parametric Analysis Integrated with Architectural and Landscape Garden Planning

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Editorial

Architectural landscape architecture design exhibits complexity and diversity, relying on the continual growth of computer and digital technologies and influenced by programming linguistics, complexity theory, chaos theory, non-Euclidean geometry, system theory, and emergence theory. Architectural landscape projects are becoming increasingly complicated, and parametric design methodologies have played a significant role in this process. Following modernism and postmodernism, this might be the start of a new design revolution fueled by technological advancements. Simultaneously, the landscapes created by these parametric design processes have a very high degree of convergence. The purpose of parametric design is to parameterize the design's outcome. A certain component that influences things is discovered through analysis, and then they are qualitatively and quantitatively assessed for data. The arithmetic unit is used to substitute the varied values of the influencing information components to construct the technique of different information models of the output, and the computer is used to compile the programme to form the internal connection with the outcome.

Parametric modelling is the creation of a digital model based on a set of pre-programmed rules or algorithms known as "parameters" (or parametric design). Rather than being manually changed, the model or parts of it are produced automatically by internal logic arguments. The parametric design was first used in the industrial field, and it went on to gain success in the aerospace and marine industries. Breakthroughs in parametric design did not aid designers until the 1980s, despite the rapid expansion of computer technology. Plant and animal morphology, a quasi-scientific discipline, has spawned advances that can be applied to construction methods. Architectural design, urban planning, and landscape design have all embraced parametric design [1-5].

It gives up a variety of opportunities for scheme design, allowing for simple solutions to complex difficulties in traditional design. The following aspects describe parametric architecture: rejecting homogeneous utilitarianism by combining complexity and variance. The importance of urbanism, interior design, an architectural marvel, and even fashion is all discussed.

The building industry's progress in the realm of parametric design is astounding. The pioneering involvement of pioneering firms such as the British Architectural Alliance College, the University of California, and the UN studio in this field during the last few decades is partly responsible for this success. Simultaneously, the use of parametric design as a medium has sped up the development of more advanced architectural ideas such as digital modelling, building information modelling theory, digital design, and nonlinear architectural design, thanks to the dual promotion of advanced philosophy and the widespread use of computer-aided design. Architectural landscape architecture is a highly interdisciplinary field, and associated theoretical study and applications for parametric design in the landscape are still in their infancy when compared to architectural landscape architecture design.

From the standpoint of parametric design, a new way of architectural landscape design is built, and new domains based on classic architectural landscape design methods are expanded. This research aims to introduce parametric design into the architectural landscape architecture sector, combine it with today's hot artificial intelligence cameras, and produce a new planning and design concept that is responsive to the digital age's development. The framework of the parametric design technique for architectural landscape architecture is designed by evaluating the essence of parametric design, its ideological and theoretical base, and its application in architectural landscape design. It verifies the practicality and scientificity of parametric analysis combined with artificial intelligence in architectural landscape architecture planning and design using specific data serves as a model for parametric design in the future. The parametric design technique is a model in which all environmental data is quantified after qualitative and quantitative analysis, entered into a computer, and the final output data is generated using computer algorithms. This method is rather scientific, and it can include a whole set of analysis and assessment reports, making the design more scientific and thorough. As a result, the inclusion of parametric thinking to the architectural landscape architecture business will have a significant impact.

The literature applied the parametric method to a graduate course in landscape urbanism, resulting in a set of novel theoretical methodologies that were exhibited and discussed on real-world plots. Literature demonstrates how artificial ecology can be used to manage urban development at various sizes. Its way of thinking is to create an abstract operating system with parameterized software. The course is developed in four stages, including site indexation, sensitive system, network city, and self-realization, and is finished in four semesters as a studio. The newest successes and trends in the evolution of digital landscapes were discussed and examined in literature, demonstrating the borders of international digital landscape study.

In terms of the landscape architecture parametric design development trend, the literature has a more in-depth study on landscape architecture parametric design, elaborating on the digital technology that can be applied in environmental cognition, design construction, and design evaluation through diagrams. It offered a digital landscape architecture design strategy that is scientific, objective, and capable of rationally recognising and analysing things,

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as well as a digital landscape architecture design strategy that is ideal for the development of landscape architecture [6-10].

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Conflict of Interest

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