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PREFACE

Artificial Intelligence for Architectural Alchemy: Fusing Human Creativity and AI Innovation in Design

AI's role in architecture has evolved significantly, moving from mere computational tools to complete sophisticated systems that, if appropriately utilised, may enhance creativity and efficiency during architectural design. This emerging interaction of AI and architecture brings an exciting yet unique relationship. AI can address intricate architectural design issues regardless of the scale, such as solving urban planning challenges and constructing opening designs for the architect. Then, the architect may interpret and modify the results according to their cognitive skills to bring those "AI dreams" into reality. Afterwards, those final products could, in turn, be utilised to enrich AI's vocabulary as AI training materials and vice versa. This kind of intertwining interaction between architecture and AI capabilities is emerging as a recurring theme in many literatures. At its pinnacle, one of them introduces the term "architectural alchemy", where the synergy between AI and human intuition is crucial for maximising design potential in architecture.

Many scientists have conducted systematic reviews of AI applications in architecture, revealing a diverse array of interdisciplinary studies that underscore the potential of AI to revolutionise architectural practices. To unravel this trend, this sixth release of **JARINA (Journal of Artificial Intelligence in Architecture)** presents five papers emphasising comprehensive literature explorations about AI in architecture as follows. The first author conducted systematic article reviews to investigate the optimum utilisation of AI in supporting the interior design process. The second author reviewed a program based on agent-based AI, AnyLogic, to measure the efficiency of emergency access on evacuation routes. The third author examined several scientific journals about the application of neuroscience and AI in optimising biophilic architectural design. The fourth author evaluated the natural lighting performance of a house in Bandung to discover its effectiveness and potential future improvements. Then, the fifth author suggested that AI can be deployed to optimise the project's workflow by selecting building materials efficiently. In conclusion, the intersection of AI and architecture is a dynamic field characterised by rapid advancements and ongoing debates about the balance of creativity and technology. As the literature reveals, AI enhances design efficiency and challenges traditional architectural narratives, prompting a re-evaluation of the architect's role in the digital age.

We express our gratitude to all the authors and parties involved in issuing this sixth issue of JARINA. And for researchers worldwide, we kindly invite you to publish your remarkable works in digital art, informatics, neuroscience, technology, building sciences, urban design, architecture and others in JARINA. Lastly, we hope our papers can inspire and enrich our readers' knowledge to stay informed with the latest advancements in architecture and digital technology.

Jackobus Ade Prasetya Seputra

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