

Automation Based Creative Design - Research and Perspectives

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From Elsevier Science : Automation Based Creative Design - Research and Perspectives before purchasing it in order to gage whether or not it would be worth my time, and all praised Automation Based Creative Design - Research and Perspectives:

Computer technology has revolutionized many aspects of building design, such as drafting, management, construction - even building with robots. This revolution has expanded into the field of design creativity. Presented in this book is an up-to-date, comprehensive picture of research advances in the fast-growing field of informatics applied

to conceptual stages in the generation of artifacts - in particular, buildings. It addresses the question how far and in what ways creative design can be intelligently automated. Among the topics covered are: the use of precedents; the relations between case-based, rule-based, and principle-based architectural design reasoning; product typology; artifact thesauruses; the inputting and retrieval of architectural knowledge; the visual representation and understanding of existing or projected built forms; empirical and analytical models of the design process and the design product; desktop design toolkits; grammars of shape and of function; multiple-perspective building data structures; design as a multi-agent collaborative process; the integration of heterogeneous engineering information; and foundations for a systematic approach to the development of knowledge-based design systems. The papers provide a link between basic and practical issues: - fundamental questions in the theory of artifact design, artificial intelligence, and the cognitive science of imagination and reasoning; - problems in the computerization of building data and design facilities; - the practical tasks of building conception, construction and evaluation. The automation of creative design is itself considered as an engineering design problem. The implications of current and future work for architectural education and research in architectural history, as well as for computer-integrated construction and the management of engineering projects are considered.