DESCRIPTION

Computer-Aided Design is a leading international journal that provides academia and industry with key papers on research and developments in computational foundations and methods of design. The term "design" is to be understood broadly to encompass conceptualization, synthesis, realization, and evolution of artifacts, processes, and systems (both natural and artificial).

Computer-Aided Design invites papers reporting new research, as well as novel or particularly significant applications, within a wide range of topics, spanning all stages of design from concept creation to manufacture and beyond. Contributions are welcome from all disciplines and application areas, provided that they have a significant geometric, topological, spatial, or configuration design content, and present developments likely to be of interest to a broad spectrum of researchers, educators, and practitioners of computer-aided design. In this context, examples of relevant topics include but are not limited to: Foundational theories, frameworks, methodologies, and standards Mathematical models, representations, and algorithms for shapes, solids, structures, and assemblies Material, behavior, and physical modeling Conceptual design and invention Uncertainty and imprecision in computer-aided design Multi-scale modeling and design of shape and material structures System level design and model-based systems engineering Programmable subtractive, additive, and hybrid manufacturing Generative design, shape, topology, and material optimization Computational planning, fabrication, and inspection Discretization and meshing algorithms Data acquisition, model recognition and reconstruction Representation conversions and interoperability Applications of AI in design, including neural networks and machine learning Design ontologies, grammars, languages, and semantics Data driven modeling and synthesis Advanced support of manufacturing and downstream activities Technologies in support of digital factory and digital twin concepts User interfaces, system interfaces, and human-computer interaction Design databases, knowledge repositories, object libraries and retrieval Specific applications and significant benchmarks of computer-aided design

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