

Contents

Generative Design in Architecture: From Mathematical Optimization to Grammatical Customization	1
Pirouz Nourian, Shervin Azadi, and Robin Oval	
Augmented Reality-Driven Prototyping for Error Elimination During Computational Design and Digital Fabrication	45
Odysseas Kontovourkis	
Design of Gesture-Controlled Interface for Mechatronic Systems: A Computational Approach	73
Apostolos Tsagaris, Maria Economou, Athanasios Manavis, and Panagiotis Kyrtatsis	
Topology Optimization Utilizing Density-Based Approach for Additive Manufactured Components: A Case Study of an Automotive Brake Caliper	91
Nikolaos Kladovasilakis, Georgios Kosmidis, Panagiotis Kyrtatsis, and Dimitrios Tzetzis	
Rethinking the Brick: Developing a File to Fabrication Framework for Mortar-Free, Robotic Masonry Wall Assembly	107
Asterios Agkathidis, Yang Song, and Jiangyang Zhao	
Knowledge-Based Design: A Function-Knowledge Reasoning Model for Product Conceptual Design	119
Yiwei Jiang, Xin Guo, Ying Liu, and Wu Zhao	
Equation Driven Micro-Milling of 2D Free Form Models and Off-Line G-code Generation for Variable Feed Machining	141
Ch. Tzivelekis and A. A. Krimpenis	

Study of the Topography of Face Milled Surfaces Using CAD-Based Simulation	159
Nikolaos Tapoglou, Chara Efstathiou, Anastasios Tzotzis, and Panagiotis Kyratsis	
Study on Design and Manufacturing of an Engine Block Using Digital Tools	167
Sever-Alexandru Haba and Gheorghe Oancea	
Automatization of CAD Model Development of Slewing Bearing Using Solid Edge™	205
Rafael Gella-Marín, César García-Hernández, and José-Luis Huertas-Talón	
CAD-Based Application in VBA for Tool's Profiling	217
Virgil Gabriel Teodor, Georgiana Alexandra Moroșanu, and Răzvan Sebastian Crăciun	
Index	261