

Preface

This book concerns the layout design, which is the most fundamental problem in Architectural and Urban Composition. Part I presents the optimization of a building floor plan based on constraint satisfaction combined with coarse grid discretization, and evaluation of the quality of a town square (plaza) based on geometrical properties derived directly from its plan. Part II presents the application of crowd simulations for analytical and creative purposes in Architecture.

This book presents results of the research titled: *Effective computational methods for grid and raster-based modeling of practical problems in architectural and urban design* conducted from December 2013 to November 2015 under the Singapore University of Technology & Design and Massachusetts Institute of Technology Postdoctoral Program.

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