# The Maximum Consensus Problem: Recent Algorithmic Advances

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## Because outlier-contaminated data is a fact of life in computer vision.

Outlier-contaminated data is a fact of life in computer vision. For computer vision applications to perform reliably and accurately in practical settings, the processing of the input data must be conducted in a robust manner. In this context, the maximum consensus robust criterion plays a critical role by allowing the quantity of interest to be estimated from noisy and outlier-prone visual measurements. The maximum consensus problem refers to the problem of optimizing the quantity of interest according to the maximum consensus criterion.

This book provides an overview of the algorithms for performing this optimization. The emphasis is on the basic operation or "inner workings" of the algorithms, and on their mathematical characteristics in terms of optimality and efficiency. The applicability of the techniques to common computer vision tasks is also highlighted. By collecting existing techniques in a single article, this book aims to trigger further developments in this theoretically interesting and practically important area. For updates, errata, demo programs, and other information, please visit: http://cs.adelaide.edu.au/~tjchin/maxcon/

### ABOUT THE AUTHORS

Tat-Jun Chin is an Associate Professor at the University of Adelaide. He received his PhD from Monash University in 2007. His research interests include robust estimation and geometric optimization. He won a CVPR award and DSTO award (both in 2015) for his research work.

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## CONTENTS

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