

## Contents

Preface	vii
Eigenconfigurations of tensors HIROTACHI ABO, ANNA SEIGAL, and BERND STURMFELS	1
Sum of squares basis pursuit with linear and second order cone programming AMIR ALI AHMADI and GEORGINA HALL	27
Helly's theorem: New variations and applications NINA AMENTA, JESÚS A. DE LOERA, and PABLO SOBERÓN	55
Representation theory of the symmetric group in voting theory and game theory KARL-DIETER CRISMAN and MICHAEL E. ORRISON	97
Modeling the distribution of distance data in Euclidean space RUTH DAVIDSON, JOSEPH RUSINKO, ZOE VERNON, and JING XI	117
Geometric combinatorics and computational molecular biology: Branching polytopes for RNA sequences ELIZABETH DRELLICH, ANDREW GAINER-DEWAR, HEATHER A. HARRINGTON, QIJUN HE, CHRISTINE HEITSCH, and SVETLANA POZNANOVIĆ	137
Polyhedral approaches to learning Bayesian networks DAVID HAWS, JAMES CUSSENS, and MILAN STUDENÝ	155
Neural network coding of natural images with applications to pure mathematics CHRISTOPHER J. HILLAR and SARAH E. MARZEN	189
Proving Tucker's Lemma with a volume argument BEAUTTIE KUTURE, OSCAR LEONG, CHRISTOPHER LOA, MUTIARA SONDJAJA, and FRANCIS EDWARD SU	223
Factorization invariants in numerical monoids CHRISTOPHER O'NEILL and ROBERTO PELAYO	231
A survey of discrete methods in (algebraic) statistics for networks SONJA PETROVIĆ	251