Bibliographic Notes

Chapter 1 For a comprehensive treatment of multidimensional calculus and linear algebra, the reader can refer to [24, 29, 33, 34, 35] and also Appendix A of [9].
Chapter 2 The topic of optimality conditions in Sections 2.1–2.3 is classical and can also be found in many other books such as [1, 30]. The principal minors criterion is also known as "Sylvester's criterion," and its proof can be found for example in [24].
Chapter 3 A comprehensive study of least squares methods and generalizations can be found in [11]. The discussion on circle fitting follows [4]. An excellent guide for MATLAB is the book [20].
Chapter 4 The gradient method is discussed in many books; see, for example, [9, 27, 31]. More background and convergence results on the Gauss–Newton method can be found in the book [28]. The original paper of Weiszfeld appeared in [39]. The analysis in Section 4.6 follows [6].
Chapter 5 More details and further extensions of Newton's method can be found, for example, in [9, 15, 17, 27, 28]. The hybrid Newton's method can be found in [38]. An excellent reference for an abundant of optimization methods is the book [28].
Chapters 6 and 7 A classical reference for convex analysis is [32]. The book [10] also contains a comprehensive treatment of the subject.
Chapter 8 A large variety of examples of convex optimization problems can be found in [13] and also in [8]. The original paper of Markowitz describing the portfolio optimization model is [23]. The CVX MATLAB software as well as a user guide can be found in [19]. The CVX software uses two conic optimization solvers: SeDuMi [36] and SDPT3 [37]. The reformulation of the trust region subproblem as a convex problem described in Section 8.2.7 follows the paper [11].
Chapter 9 Stationarity is a basic concept in optimization that can be found in many sources such as [9]. The gradient mapping is extensively studied in [27]. The analysis of the convergence gradient projection method follows [5, 6]. The discussion on sparsity constrained problems is based on [3]. The iterative hard thresholding method was initially presented and studied in [12].
Chapter 10 Generalization and extensions of separation and alternative theorems can be found in [32, 10, 21]. The discussion on the orthogonal regression problem follows [4].
Chapter 11 A comprehensive treatment of the KKT conditions, including variants that were not presented in this book, can be found in [1, 9]. The derivation of the second order necessary conditions follows the paper [7]. Optimality conditions and algorithms for solving the trust region subproblem and its generalizations can be found in [26, 25, 16]. The total least squares problem was initially presented in [18] and was extensively studied and generalized by many authors; see the review paper [22] and references therein. The derivation of the reduced form of the total least squares problem via the KKT conditions follows [2].

Chapter 12 Duality is a classic topic and is covered in many other optimization books; see, for example, [1, 9, 10, 13, 21, 32]. The dual algorithm for solving the denoising problem is based on Chambolle's algorithm for solving two-dimensional denoising problems with total variation regularization [14]. More on duality in geometric programming can be found in [30].

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