

50.14 Summary

The main concepts and results of this chapter are listed below:

- The cone of feasible directions.
- Cone with apex.
- Active and inactive constraints.
- Qualified constraint at u .
- Farkas lemma.
- Farkas–Minkowski lemma.
- Karush–Kuhn–Tucker optimality conditions (or *KKT*-conditions).
- Complementary slackness conditions.
- Generalized Lagrange multipliers.
- Qualified convex constraint.
- Lagrangian of a minimization problem.
- Equality constrained minimization.
- KKT matrix.
- Newton’s method with equality constraints (feasible start and infeasible start).
- Hard margin support vector machine
- Training data
- Linearly separable sets of points.
- Maximal margin hyperplane.
- Support vectors
- Saddle points.
- Lagrange dual function.
- Lagrange dual program.
- Duality gap.