Module 7: Convex Optimization through CVX and CVXOpt
Background Reading Suggestions
Due 31 Jan 2013

BV04 - refers to the book "Convex Optimization" by Stephen Boyd and Lieven Vandenberghe. It can be found at http://www.stanford.edu/~boyd/cvxbook/ for download for free.

F04 – refers to a set of notes on authored by Rob Freund (a professor at MIT) for a class Nonlinear Optimization. They are available from MIT OCW here: http://ocw.mit.edu/courses/sloan-school-of-management/15-084j-nonlinear-programming-spring-2004/lecture-notes/lec23_semidef_opt.pdf

Convex Sets

- BV04 Sec. 2.1.4

Convex Functions and Convex Calculus

- BV04 Sec. 3.1.1
- BV04 Sec. 3.1.5
- BV04 Sec. 3.2

Convex Optimization Problems

- BV04 Sec 4.1

Semidefinite Programming

- BV04 Sec. 2.2.5
- F04 Sec. 3
- F04 Sec. 4

Newtons Method

- Read through the algorithmic description in Rob Freund's Notes: http://ocw.mit.edu/courses/sloan-school-of-management/15-084j-nonlinear-programming-spring-2004/lecture-notes/lec3_newton_mthd.pdf

Customizing Interior Point Solvers (Advanced)

- This is an advanced topic. If you're interested, you may skim this paper. http://www.ee.ucla.edu/~vandenbe/publications/mlbook.pdf
  We'll explore some of the examples in the session (time permitting)