

## List of errata for the lecture notes

### Optimization for Systems and Control (edition: September 2022)

Errata version 1.0 — September 30, 2022

- p. 48 In Section 5.1.2, it should be added that local minima of the problem  $\min_x f(x)$  s.t.  $h(x) = 0$  correspond to *saddle* points of the function  $f(x) + \lambda^T h(x)$ . So solving  $\min_{x,\lambda} f(x) + \lambda^T h(x)$  will not work if we want to find point that satisfy the Lagrange conditions. Instead, to find points for which  $\nabla_{x,\lambda} (f(x) + \lambda^T h(x)) = 0$ , we can solve

$$\min_{x,\lambda} \|\nabla_{x,\lambda} (f(x) + \lambda^T h(x))\|_2 ,$$

which is an *unconstrained* optimization problem.