

# Literature review lecture notes

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## 1 Optimization - Andreas Steinbock

### 1.1 Quadratic forms and Convexity

**Definition** all terms in the function expression  $f(x_1, x_2, \dots, x_n)$  has order 2

A quadratic form  $f(x) = x^T A x$  and the symmetric matrix  $A$  is positive definite if  $f(x) > 0$  or positive semidefinite if  $f(x) \geq 0$

**Principal Minors and the Hessian matrix**

## References