

Optimization + Assignments 3, 4

(Neural Networks Implementation and Application Tutorial)

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Overview

- Assignment 1
- Hessian and Jacobian
- Saddle Point
- Assignment 2

Assignment 3

- Points for presentation 🌟
- What was the hardest part?

Hessian and Jacobian

Functions

- $f_1 : \mathbb{R} \rightarrow \mathbb{R}$ $f_2 : \mathbb{R}^m \rightarrow \mathbb{R}$ $f_3 : \mathbb{R} \rightarrow \mathbb{R}^n$ $f_4 : \mathbb{R}^m \rightarrow \mathbb{R}^n$

Hessian and Jacobian

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- What are some model examples for these functions?

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- What is the Hessian?
- What are the matrix dimensions of Jacobian for f_1, f_2, f_3, f_4 ?

Hessian and Jacobian

Functions

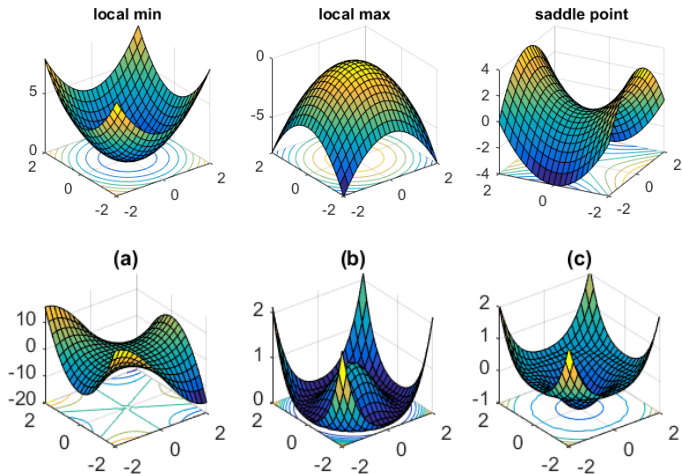
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Saddle Point

- What is the saddle point? Is it good?



Assignment 4

Any questions?

Resources

- How can it be trapped in a saddle point?