

Homework 4

Lecturer: Santosh Vempala

Due Date: 3 Dec 2021

Notes:

- You can discuss and collaborate, but please write your own solutions, and clearly mention everyone you discussed with.
- Start on a new page for each problem.
- Submit on Canvas via Gradescope

1. [Algorithm]

What is your favorite learning algorithm? Why?

2. [Theorem]

What is your favorite theorem or lemma that we discussed in class? Why?

3. [Hardness]

What learning problem that is currently open should be solvable efficiently, in your opinion? Why?

4. [Beyond ML]

Is Gradient Descent the final answer? If not, what are its limitations? How could a machine achieve robust general intelligence?