Machine Learning (HW #1)

ME I Sem, CSE, 2024

Assignment date: September 13, 2024
Submission date: September 20, 2024

1. What is *inductive Reasoning*?

2. What is *Inductive Bias*?

3. Explain, why we require ML when conventional programming is able to solve our problems?

4. Are there any disadvantages of ML?

5. "ML is considered suitable for those tasks that are complex and/or those that need adaptability." Justify this statement with suitable examples.

6. The supervised algorithms are well understood and their performance is easy to measure." Elaborate on this statement as how they are "well understood" compared to other learning algorithms. Also, justify, how their performance is easy to measure?

7. Which of the following learning paradigms require *Active Learning*, and which of them the *Passive*? Also, explain the reason behind them.

   (a) E-mail spam detection
   (b) Medical imaging
   (c) Signature recognition
   (d) Face recognition

8. Which algorithm is required for self driving cars: supervised, unsupervised, reinforcement or neural network based learning? Why so?

9. The Deep Learning is also Neural Network. Then, why it is not simply called as Neural Network?