

Machine, Data and Learning

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Lecture 1 Notes (3-1-22)

Logic was one of the de-facto

When you are automating intelligence, it is required to come up with a generalised solution.

- The solution is going to be in a particular space. For eg. Search for prime numbers will be the space of natural numbers etc.

Resources

- kaggle
- scikit-learn
- Python ML by Example - Yuxi (Hayden) Liu
- Artificial Intelligence - A Modern Approach - Stuart Russell and Peter Norvig

Overview of topics we may cover (Will add/delete later)

- Overview of AI and ML
- Data and generalization
- Overfitting, Underfitting, Bias-variance tradeoff
- Techniques to avoid overfitting [Introductory level]
- Basics of Probability and Utility theory
- How to construct formal model from data ?
- Decision Theory - Markov Decision Process
- Decision Tree Learning, Construct decision trees from examples
- Notion of information gain
- Genetic Algorithms, Local Search
- Bayesian networks
- Modeling observation errors
- Application modeling or two additional topics in brief