A Novel Methodology to Implement Optimization Algorithms in Machine Learning

Abstract

Optimization is considered to be one of the pillars of statistical learning and also plays a major role in the design and development of intelligent systems such as search engines, recommender systems, and speech and image recognition software. Machine Learning is the study that gives the computers the ability to learn and also the ability to think without being explicitly programmed. A computer is said to learn from an experience with respect to a specified task and its performance related to that task. The machine learning algorithms are applied to the problems to reduce efforts. Machine learning algorithms are used for manipulating the data and predict the output for the new data with high precision and low uncertainty. The optimization algorithms are used to make rational decisions in an environment of uncertainty and imprecision. In this paper a methodology is presented to use the efficient optimization algorithm as an alternative for the gradient descent machine learning algorithm as an optimization algorithm.

References

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Index Terms

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Algorithms
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  Gradient Descent  BFGS  Cost Function  Data Analysis