Short story proposal - Abstract

Generalizing from a few examples: A survey on Few-shot learning
Ref: https://arxiv.org/pdf/1904.05046.pdf

Machine learning is highly data-dependent, and it is difficult to get a large volume of data for all problems. Few-shot learning (FSL) is proposed to tackle this problem by feeding a learning model with a very small amount of data. This technique plays a major role in the field of computer vision. Few shot learning can be achieved by either of the three ways data augmentation, prior knowledge from a model or prior knowledge from the algorithm.

The data involved FSL implements various methods to increase data by applying transforms to training data, transforms data of similar dataset and weekly labeled data. The model-based FSL is compared with relational learning such as weekly supervised learning, transfer learning, multi-task learning and so on. The algorithm based FSL covers the searches involved with refining the existing parameters, learning with optimizers and meta-learn parameters modeling. The survey does relatedness and differences between these methodologies.

This short story proposal aims to understand and summarize the recent researches in the field of few-shot learning, risk factors involved in FSL and the proposed research in this area. This study will include the critique or extended scope for research in this area.