Popularity of machine learning (ML) algorithms and concepts has increased to multiple folds during the last decade. Ability to build accurate and performing ML models is not only desired but also the most sought skill in data analytic domain. Rich set of ML algorithms and capabilities are made available to users in form of libraries which are developed and optimized for different requirements such as standalone or distributed data analysis. These library based solutions have made a remarkable contribution in advancing machine learning from research domain to day to day programming and analytic usage. However, library based machine learning solutions not only hide the semantics of ML algorithms but are also limited in their capabilities of detecting programming errors and performing optimizations. We believe that the usage of ML algorithms can be eased and impact can be increased by building suitable linguistic abstractions to support different machine learning processes/activities. Towards this goal we propose a novel language design, that we call machine learning programming languages, MLPL for short where model construction, training, and prediction is supported by linguistic abstractions as an integral part of the programming language itself.