

Automated Machine Learning (AutoML)

Machine Learning



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Topics Covered

- The concept of AutoML
- The importance and goals of AutoML
- The key components and process of AutoML
- How One AI works as an AutoML system

Learning Outcomes

- You will gain an understanding of what AutoML is and its significance in simplifying the process of building machine learning models
- You will recognize the importance of AutoML in democratizing machine learning and its goals of improving efficiency, scalability, consistency, and fostering innovation in model development
- You will understand the typical steps involved in the AutoML process, from data preprocessing and model training to model evaluation and deployment
- You will gain insight into how One AI is an AutoML system but provides the option of manual configuration

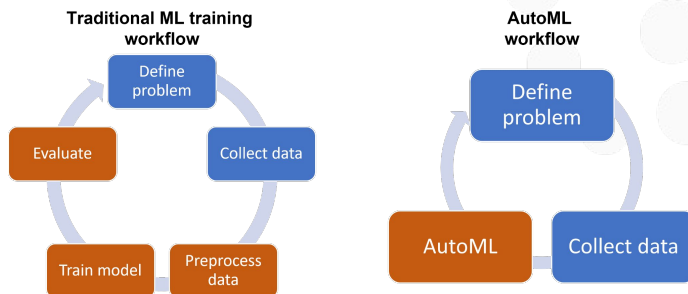


AutoML Overview



Overview

- AutoML is the process of automating the end-to-end process of building and applying machine learning to real-world problems
 - This is achieved by automating the iterative tasks of model development
 - It includes tasks such as preprocessing, feature engineering, model selection, and hyperparameter tuning





AutoML Importance and Goals



Goals & Importance

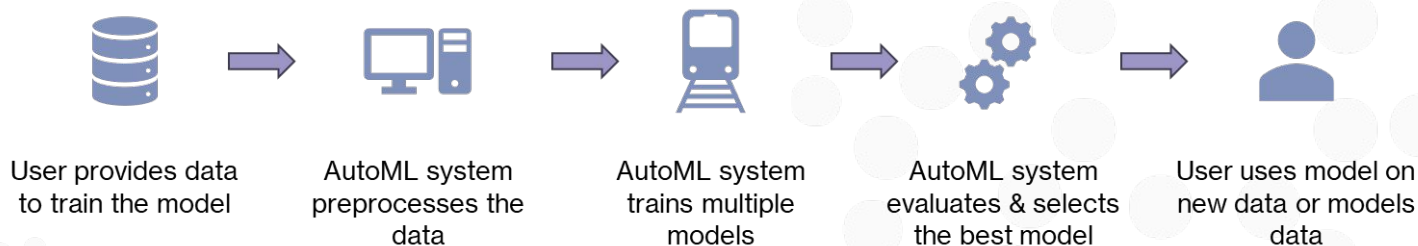
- Democratization of machine learning
- Efficiency
- Scalability
- Consistency
- Innovation




How AutoML Works




Typical AutoML Process





One AI as an AutoML System



One AI as an AutoML System

- Both the training and prediction datasets come from your data in One Model
- One AI Recipes are leveraged by the user to properly frame the datasets to solve problems unique to HR
- One AI preprocesses the data
- One AI trains several machine learning models, selects the best one, and runs it on the prediction dataset
- One AI generates exploratory data analysis and model reports, detailing model configuration, performance, variable analysis, and more - it's not a black box
- The user can fine-tune or deploy the predictions into One Model Storyboards



AutoML as Optional

AutoML is Optional in One AI

If AutoML is so great then why would anyone not want it?

- Many AutoML systems are black boxes that hide settings - One AI is not
- Experienced machine learning experts may prefer manual configuration for the flexibility and granularity of options it provides
- When reproducing a locally created model that you're satisfied with
- Sometimes fine tuning an AutoML generated model can improve results

AutoML is the default behavior in One AI but it can be either incrementally or completely overridden.



Thanks for watching!

