

Appendix: Brief Research Introduction

Machine Learning: Theory and Application

Machine Learning Framework

Data



Algorithm



Classifier/Regressor
Analysis Result

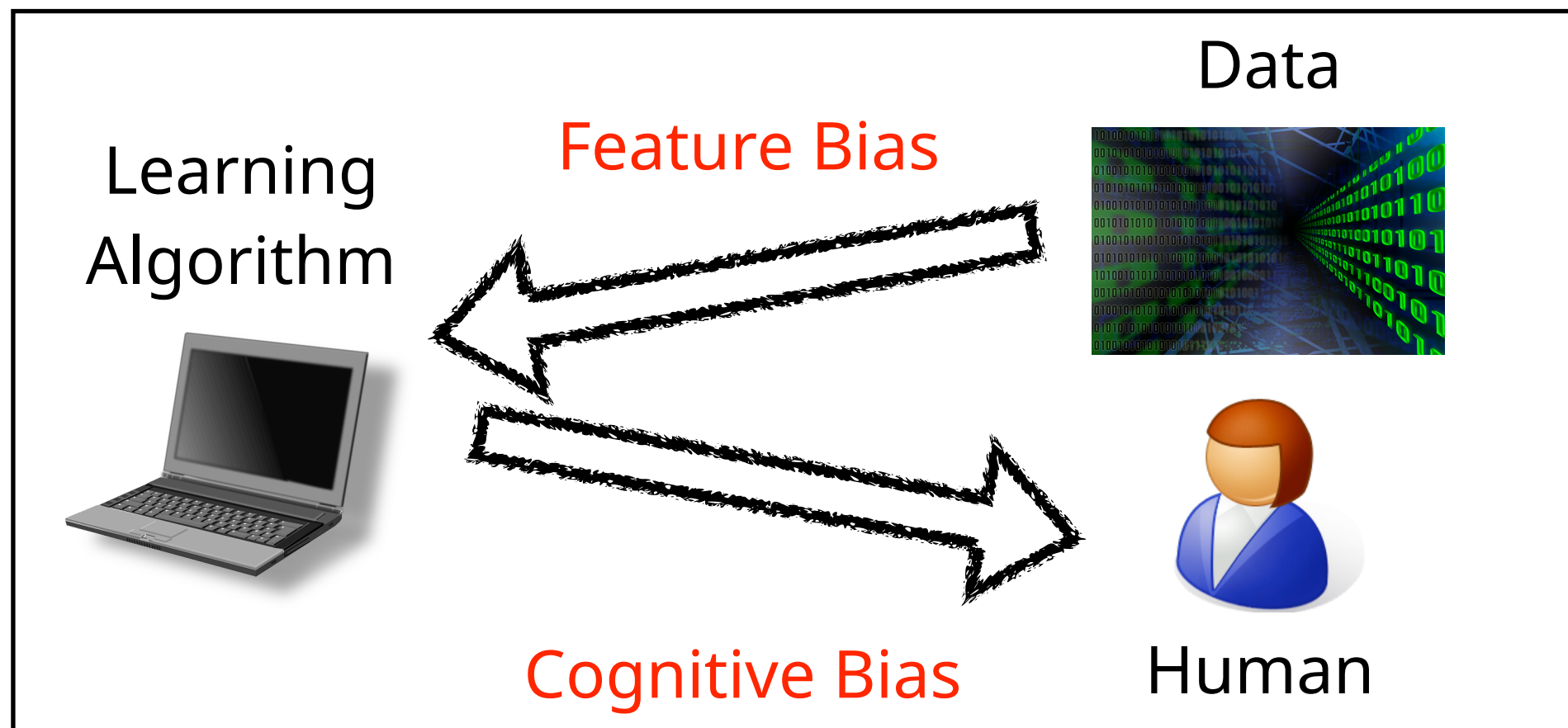


- Theoretical Analyses
 - Piece-wise Linear Model via **Convex** Formulation [NIPS14]
 - Robust Distributed **Online Classifier** Learning [ECML/PKDD14]
- Applications (Mainly, **Natural Language Processing**)
 - Binary Relation Representation Learning [COLING14]
 - Second Language Learner Support System [EMNLP14] [COLING12]

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Concept: Incremental Learning with Biases

- Incremental learning: Process only **one datum** at each round
 - Examples: Online Learning / Stochastic Learning
- Biases occur while using learning algorithms as a component of services
 - Biases deteriorate the performance of these algorithms through characteristics of data and evaluations by humans



Feature Bias
[ICDM12]
[ECML/PKDD11]

Cognitive Bias
[AAAI14]