Using Meta-learning in Online Machine Learning Methods

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Summary

1. Motivation;
2. Online Machine Learning;
3. Meta-Learning;
4. Future Steps;

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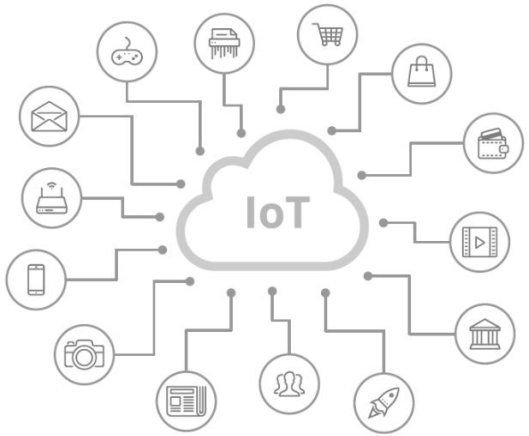
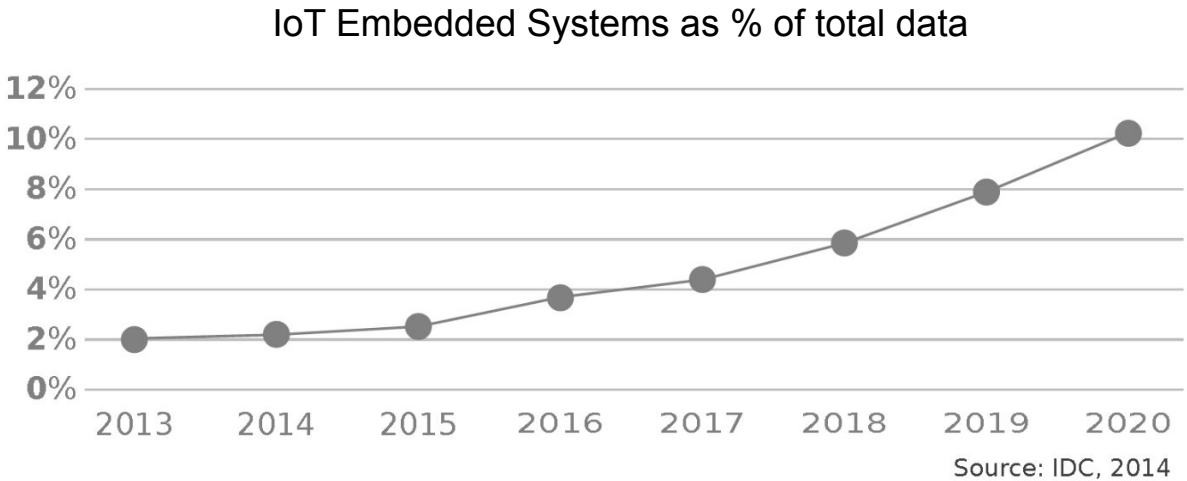
1. Motivation





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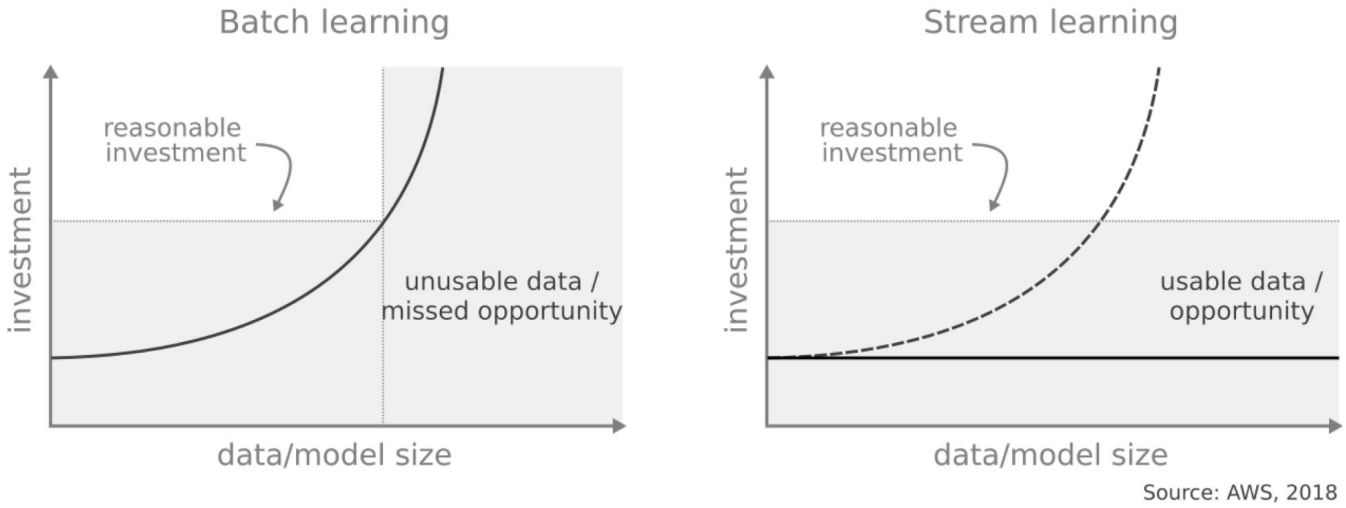
1. Motivation



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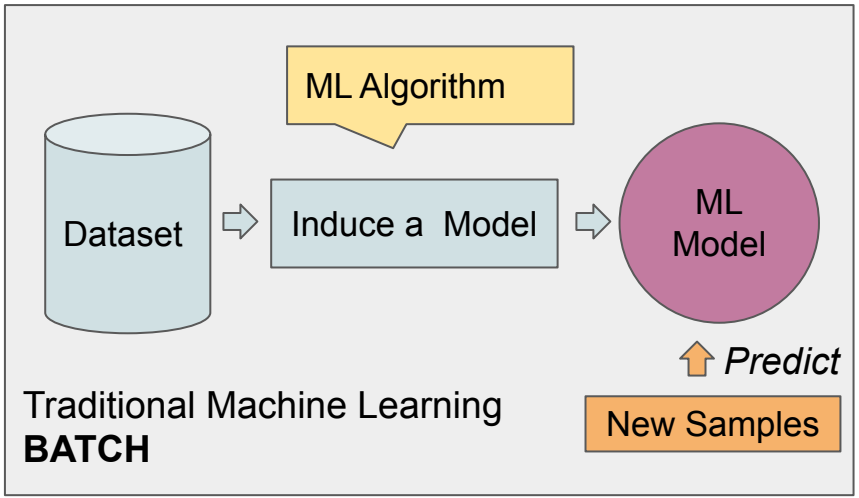
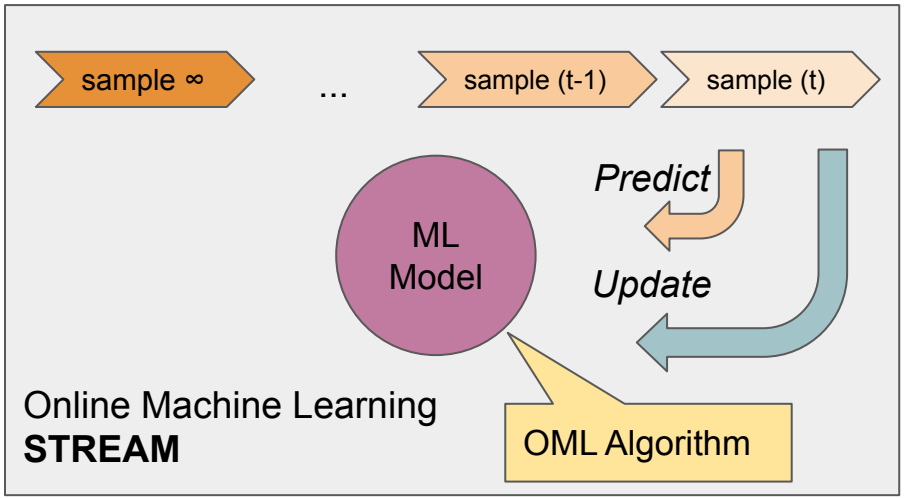
2. Online Machine Learning (Challenges)





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2. Online Machine Learning (Comparison)

	Traditional ML	Online ML
Number of passes	Multiple	Single
Processing Time	Unlimited	Restricted
Memory Usage	Unlimited	Restricted
Type of Result	Accurate	Approximated
Concept	Static	Evolving

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2. Online Machine Learning (Challenges)

- Selecting a proper algorithm, due to:
  - Algorithm Bias (simplicity);
  - Algorithm Variance;
  - Algorithm Computational Cost (Stream constraints);
- Tuning the Algorithm Hyperparameters;
- Dealing with Stream challenges:
  - Concept Drift;
  - Novelties;

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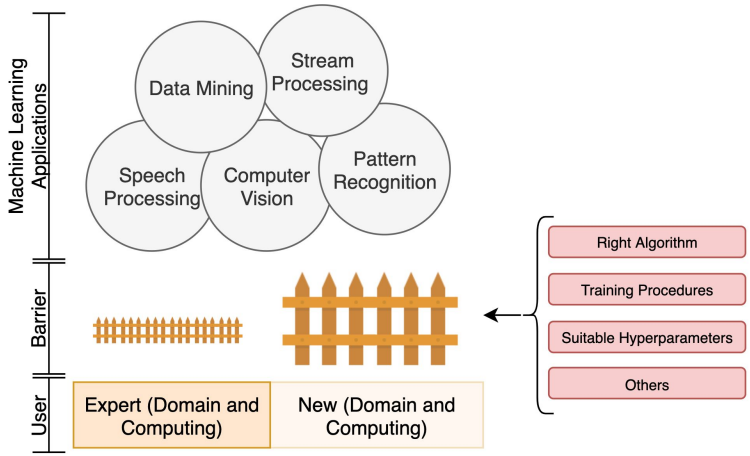
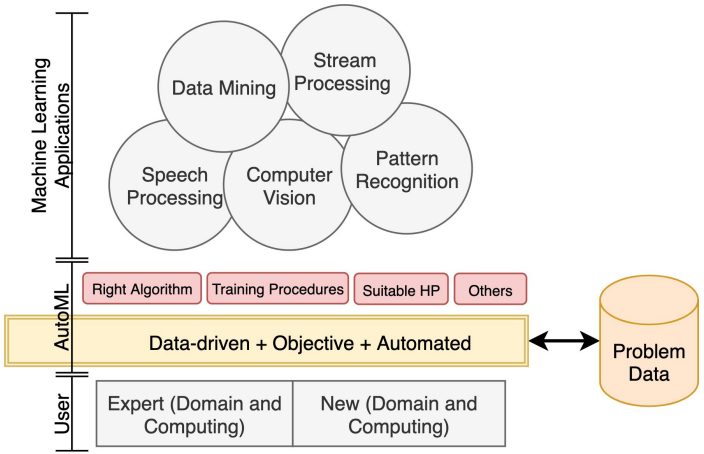
3. Meta-Learning





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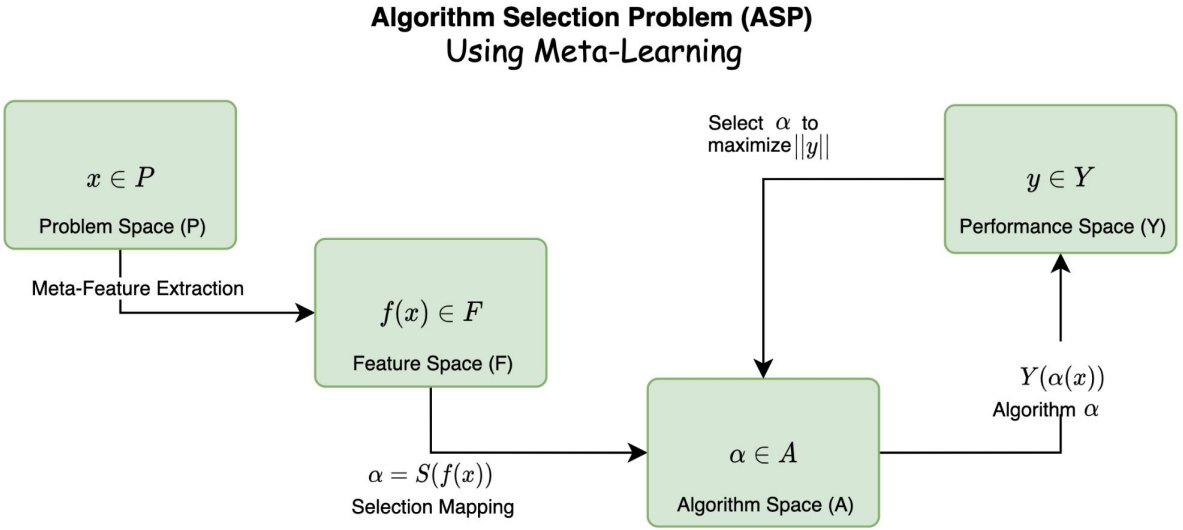
3. Meta-Learning (framework)



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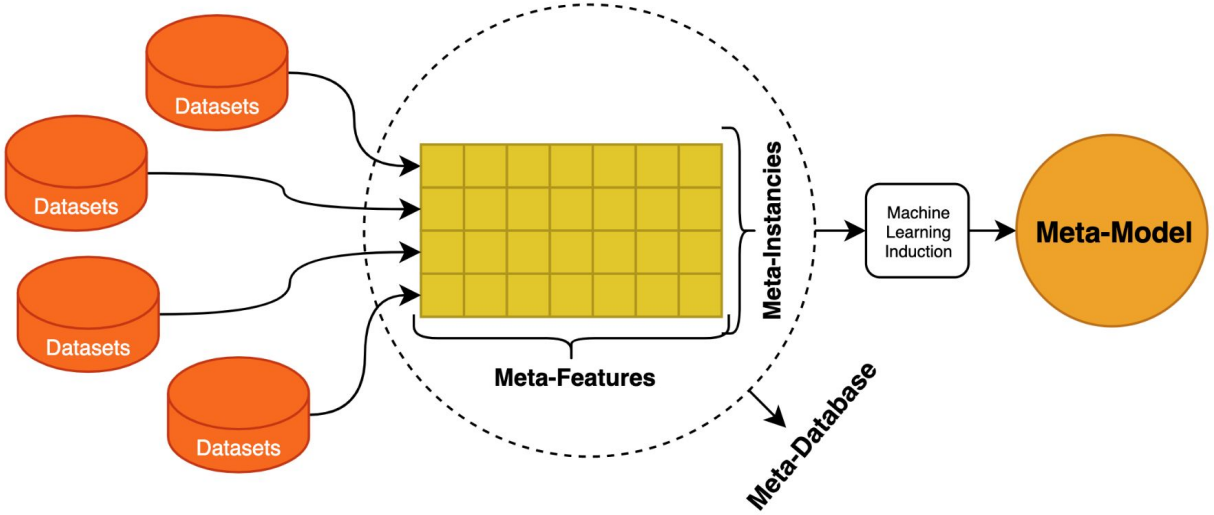

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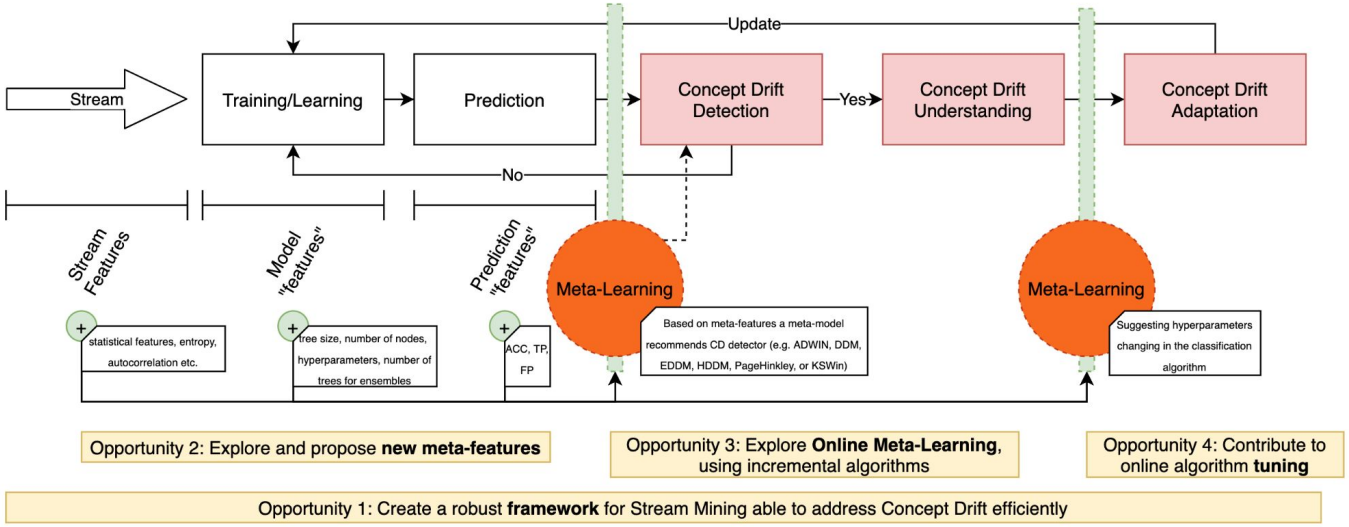
4. Future Steps



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Thank you!
(barbon@uel.br)

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References

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