

Boosting


Introduction

- *Trees are constructed sequentially to improve upon the errors made by their predecessors*
- *At every step, the goal is to solve for net error from the prior tree*

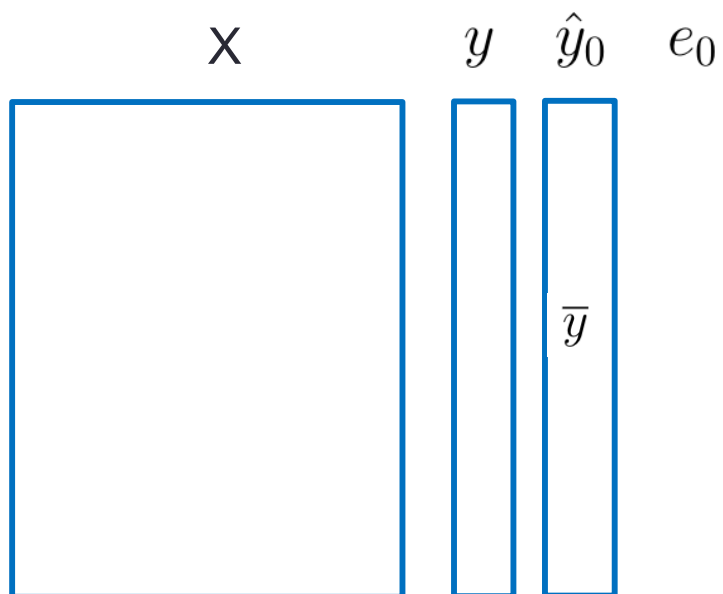
Introduction

- Build a sequence of trees
- Predict the response with a simple tree
- Find the error of this prediction
- Predict the error made by the previous tree
- Use predicted error to improve the last predicted response

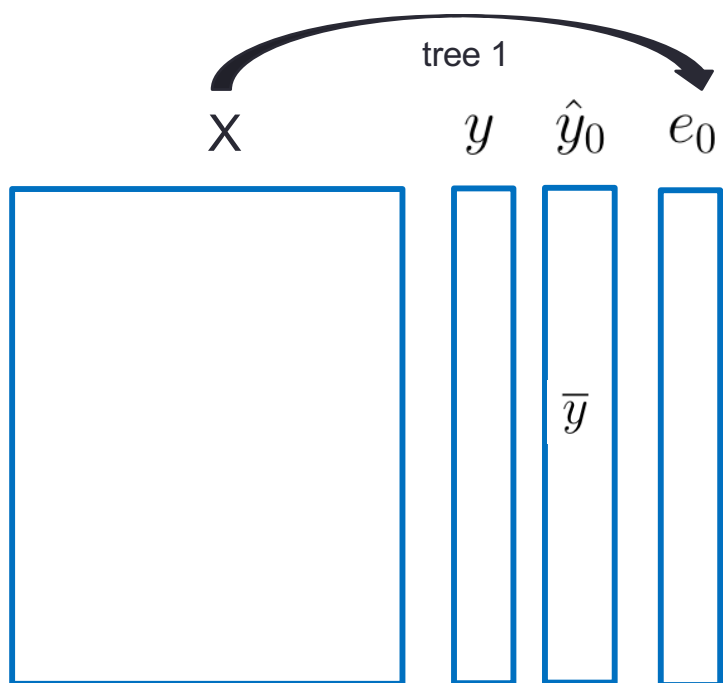
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Boosting procedure

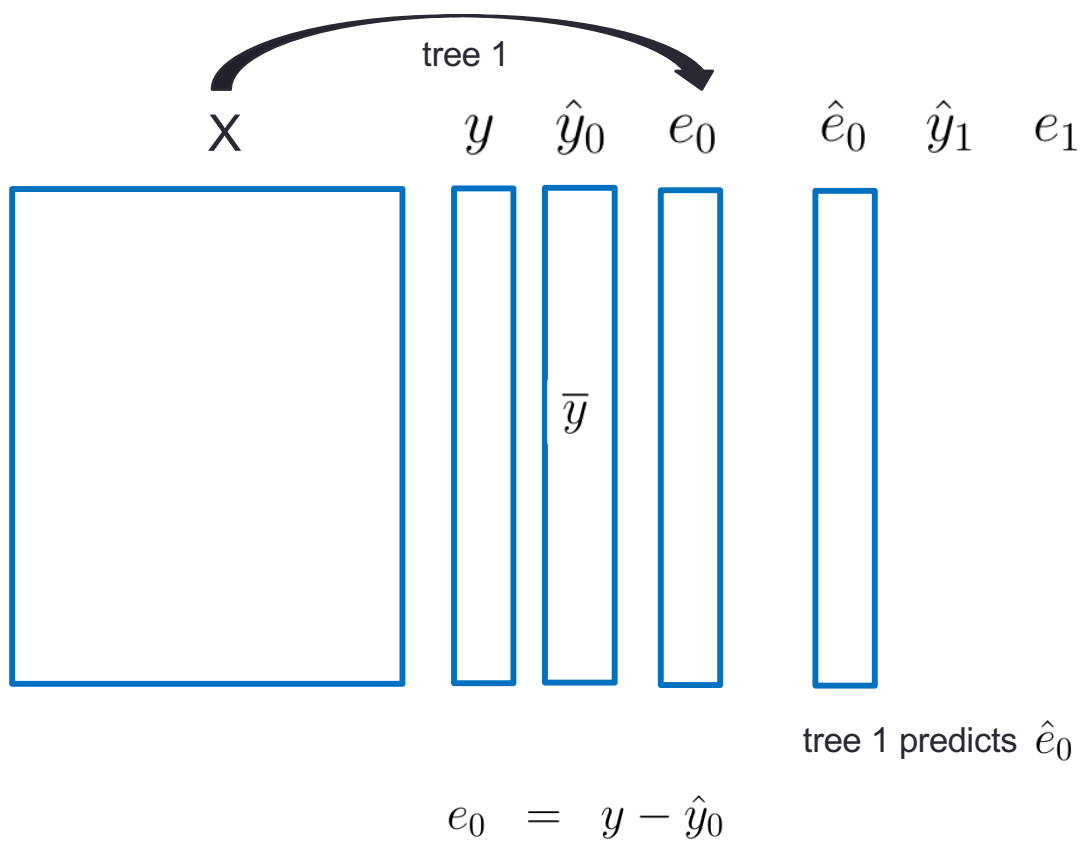


Boosting procedure

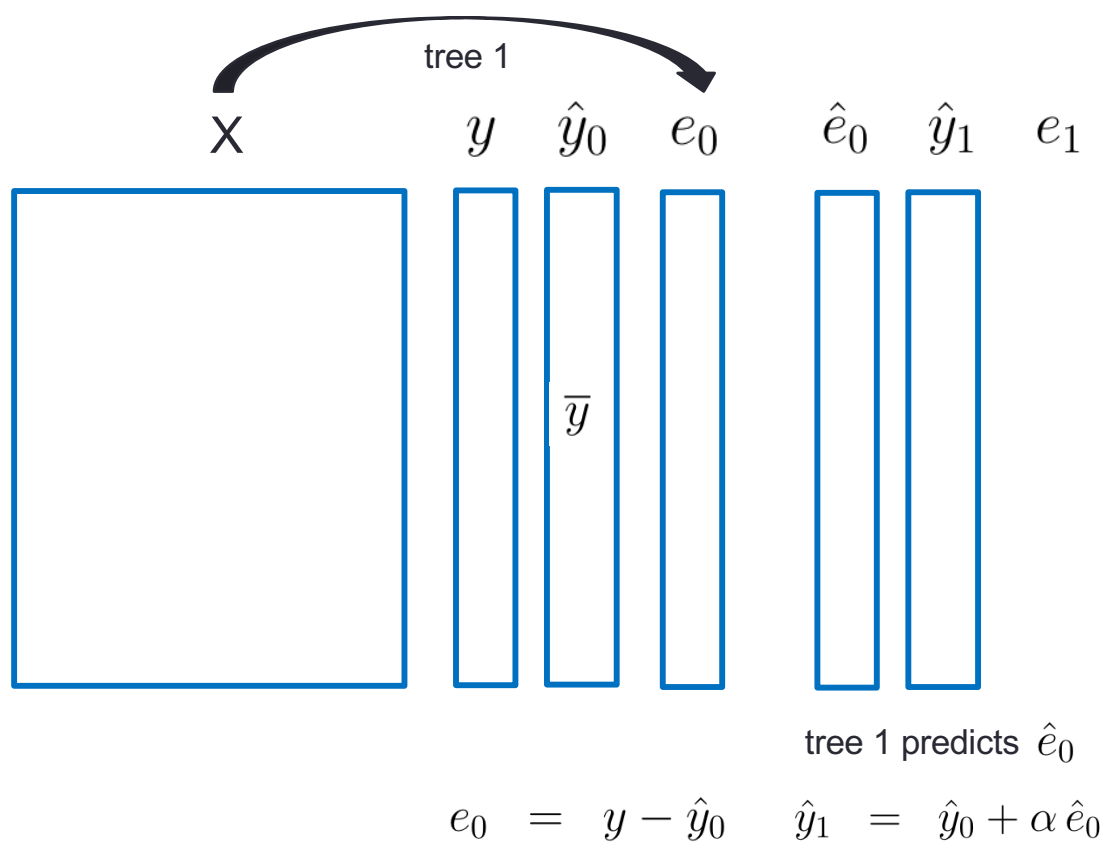


$$e_0 = y - \hat{y}_0$$

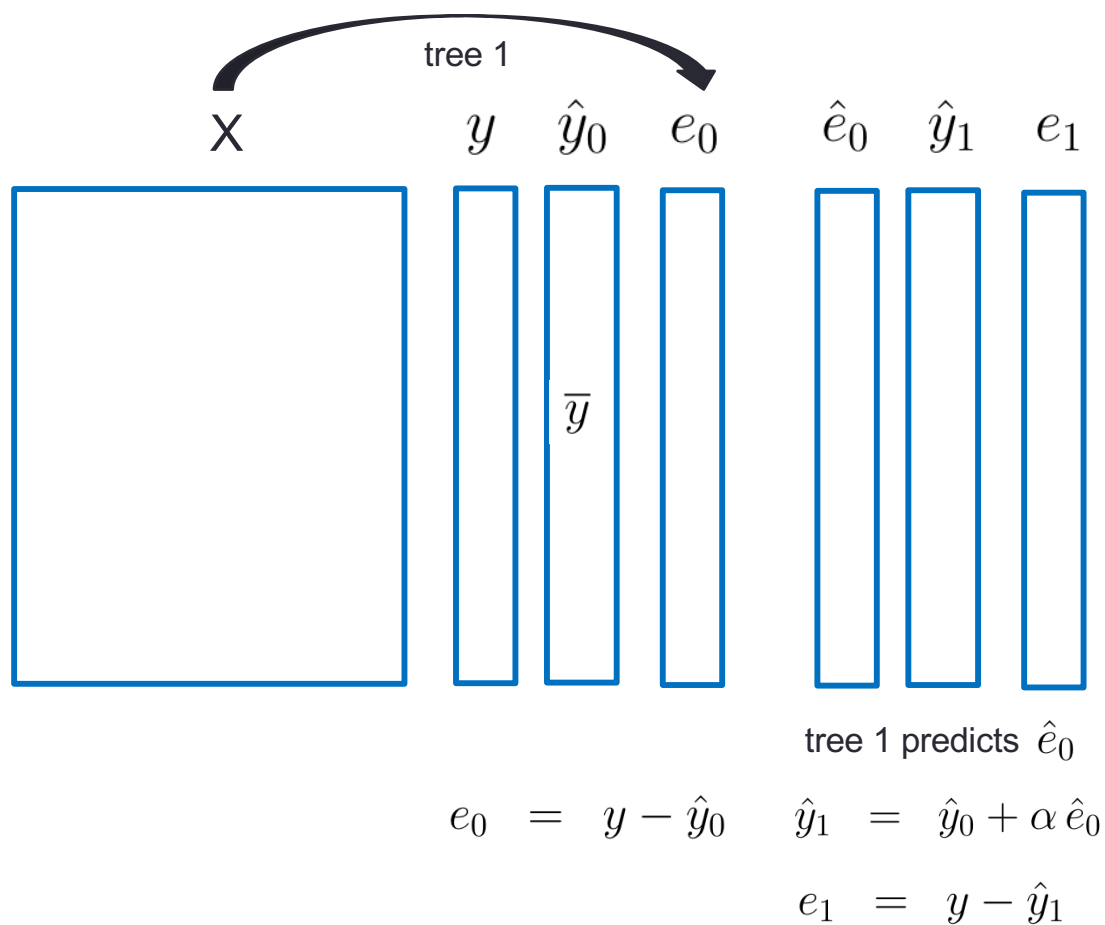
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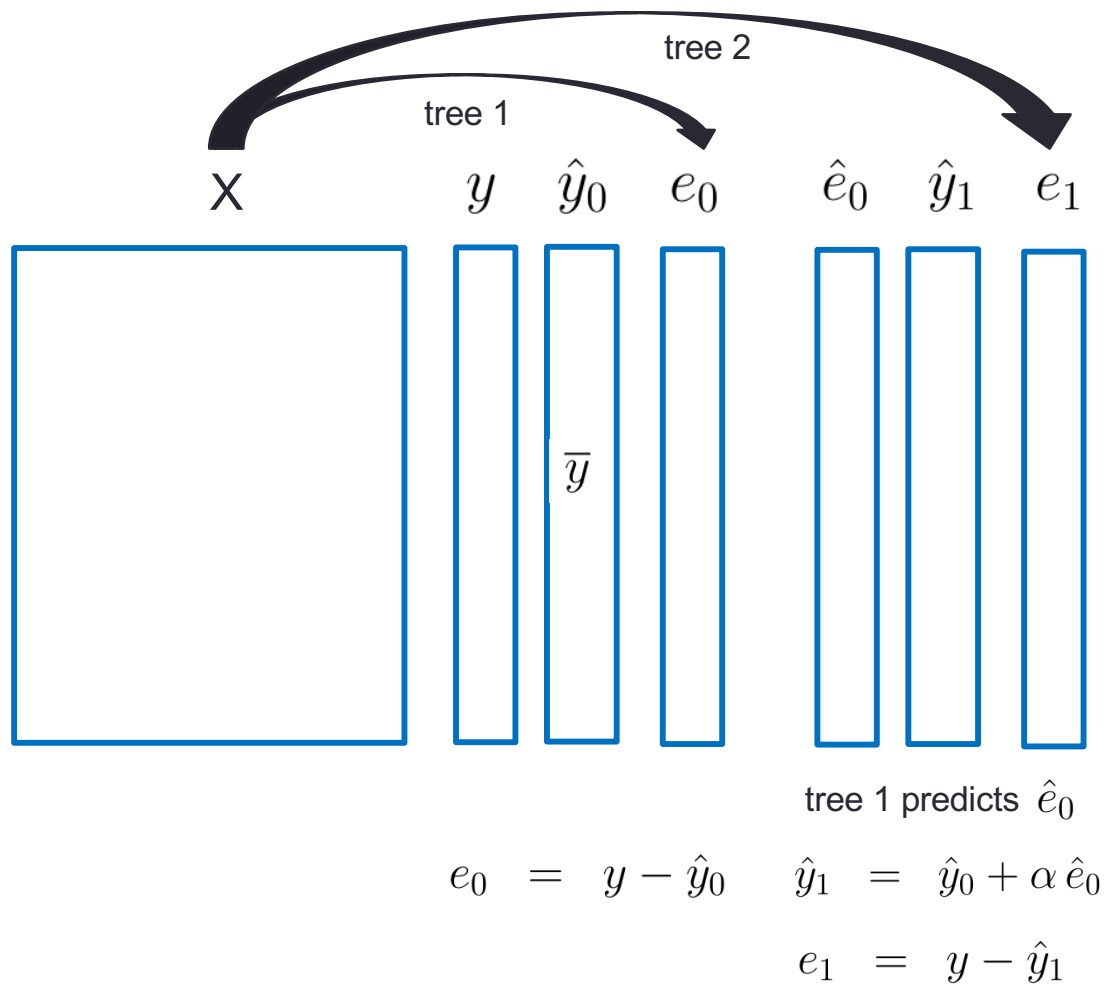
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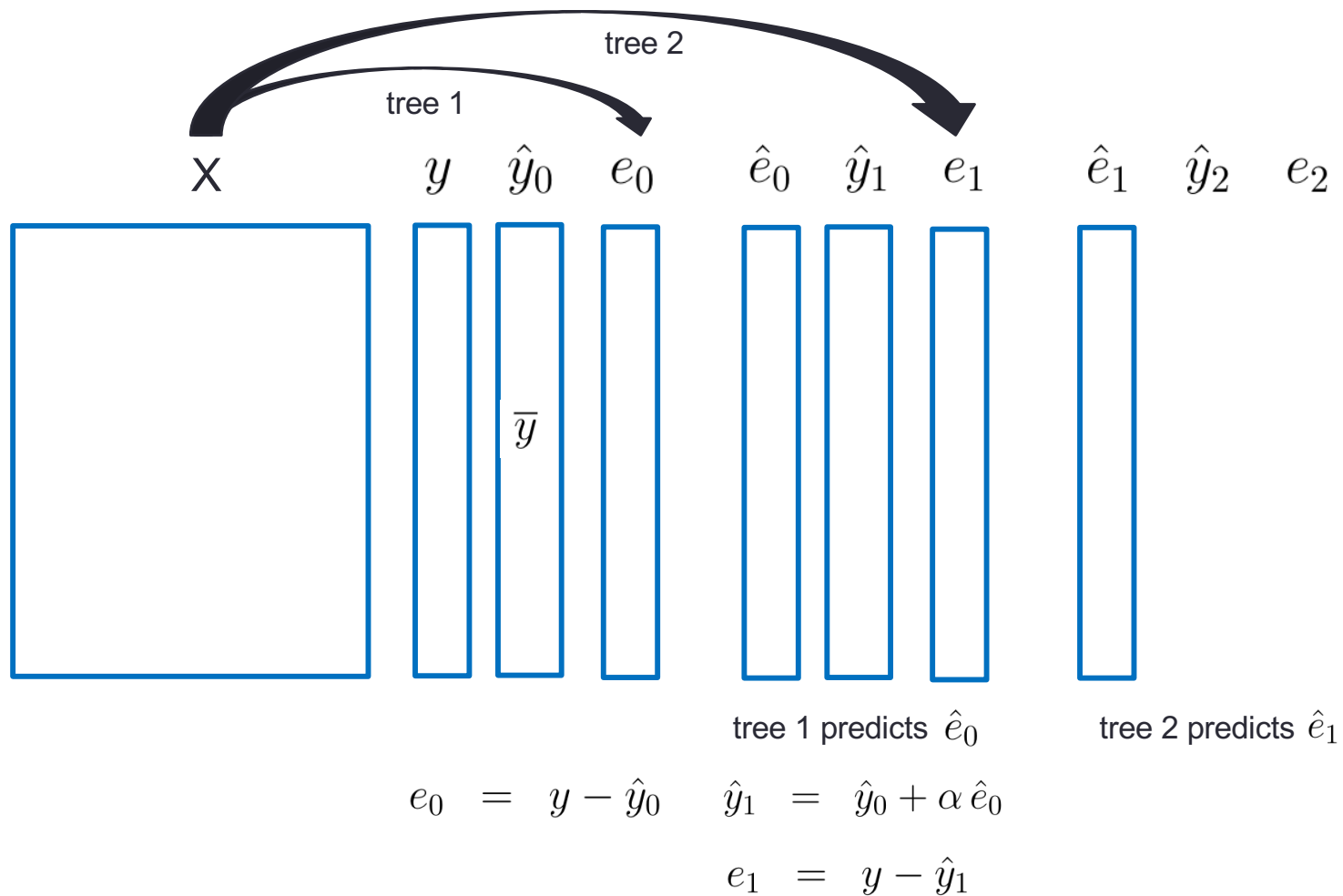
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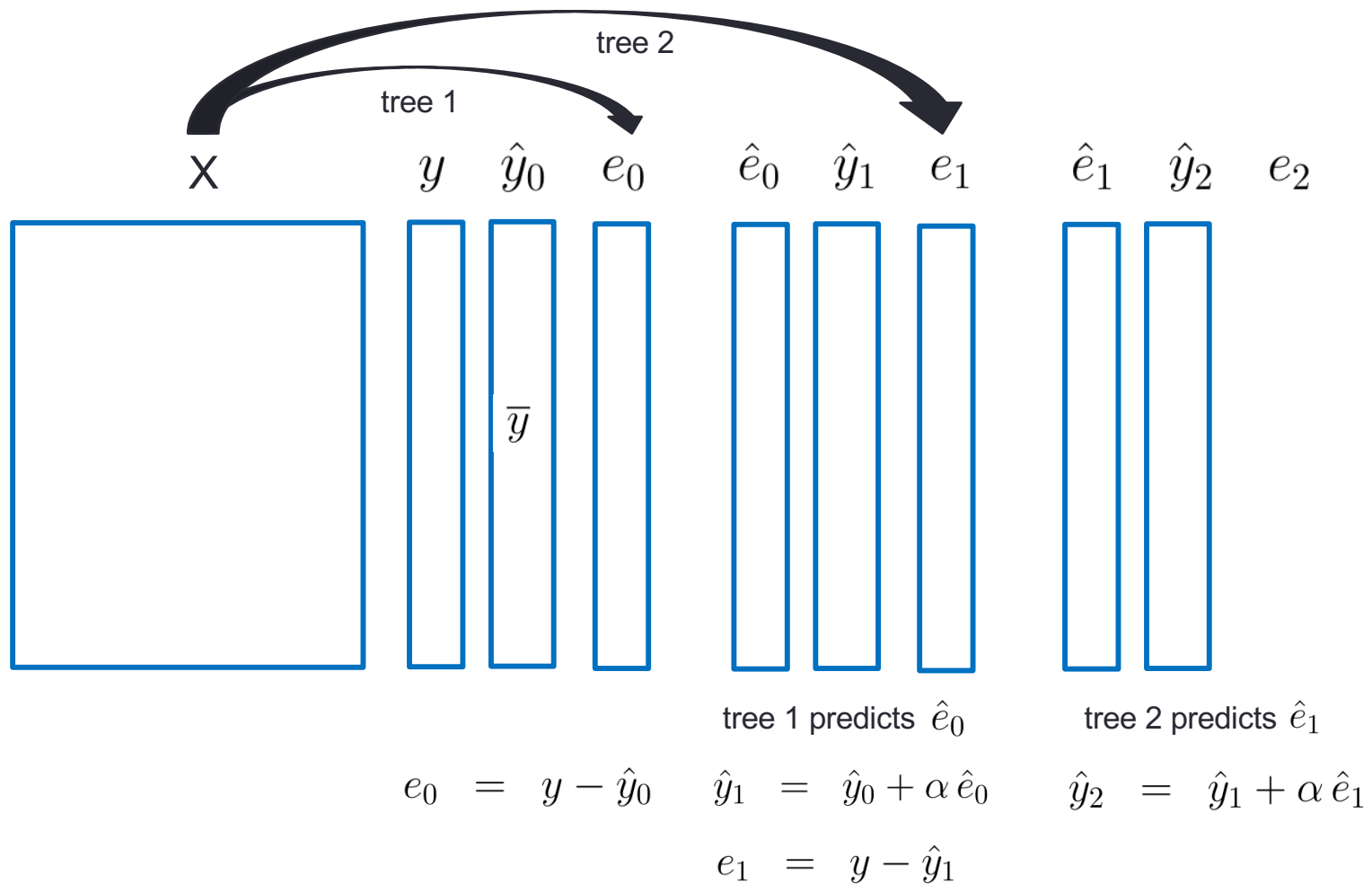
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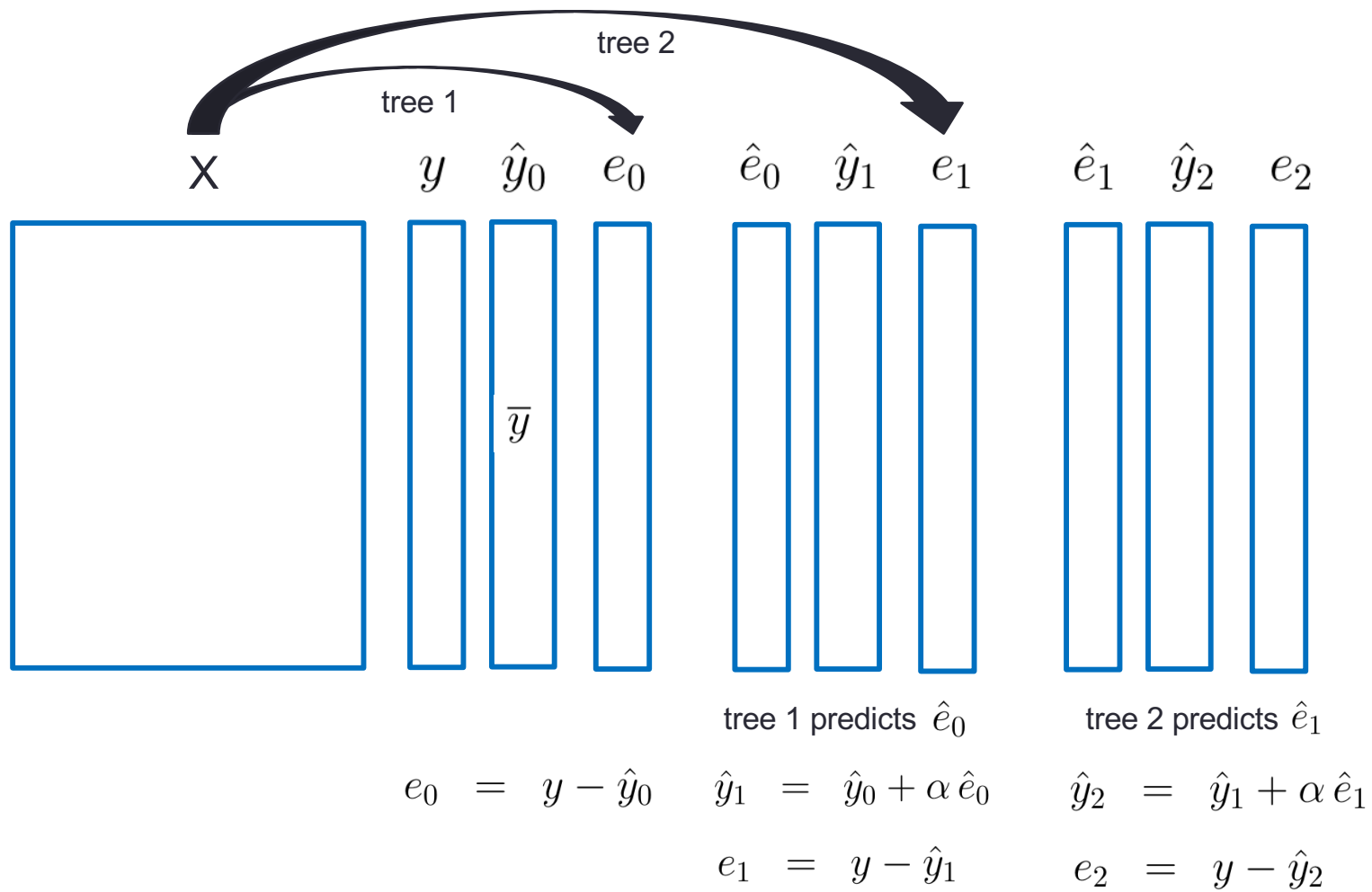
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