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[Main page](#)  
[Contents](#)  
[Featured content](#)  
[Current events](#)  
[Random article](#)  
[Donate to Wikipedia](#)  
[Wikipedia store](#)

Interaction

[Help](#)  
[About Wikipedia](#)  
[Community portal](#)  
[Recent changes](#)  
[Contact page](#)


Tools

[What links here](#)  
[Related changes](#)  
[Upload file](#)  
[Special pages](#)  
[Permanent link](#)  
[Page information](#)  
[Wikidata item](#)  
[Cite this page](#)

Print/export

[Create a book](#)  
[Download as PDF](#)  
[Printable version](#)


Languages

 [Add links](#)

[Create account](#) [Log in](#)

Article [Talk](#)

[Read](#) [Edit](#) [View history](#)



# LogitBoost

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In [machine learning](#) and [computational learning theory](#), **LogitBoost** is a [boosting](#) algorithm formulated by [Jerome Friedman](#), [Trevor Hastie](#), and [Robert Tibshirani](#). The original paper<sup>[1]</sup> casts the [AdaBoost](#) algorithm into a statistical framework. Specifically, if one considers [AdaBoost](#) as a [generalized additive model](#) and then applies the cost functional of [logistic regression](#), one can derive the LogitBoost algorithm.

## Minimizing the LogitBoost cost function [\[edit\]](#)

LogitBoost can be seen as a [convex optimization](#). Specifically, given that we seek an additive model of the form

$$f = \sum_t \alpha_t h_t$$

the LogitBoost algorithm minimizes the logistic loss:

$$\sum_i \log \left( 1 + e^{-y_i f(x_i)} \right)$$

## References [\[edit\]](#)

- ↑ Jerome Friedman, Trevor Hastie and Robert Tibshirani. Additive logistic regression: a statistical view of boosting. Annals of Statistics 28(2), 2000. 337–407. <http://citeseerx.ist.psu.edu/viewdoc/summary?doi=10.1.1.51.9525>

## See also [\[edit\]](#)

- [Gradient boosting](#)
- [Logistic model tree](#)



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| [Artificial intelligence stubs](#)

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