Bibliography Management: BibTex

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April 20, 2023

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1 First Section

This document is an example of BibTex usage for Bibliography Management. Three items are cited: *The LATEX Companion* book [1], the Einstein journal paper [2], and Donald Knuth's website [3]. The LATEX related items are [1, 3]. Another additional citation is [4], which is a book without a title.

2 Second Section

How To Use LaTeX in VS Code

1. No need to install Perl and latexmk.

2. Install LaTeX Workshop VS Code Extension.

3. Install MikTex on your system.

4. We are good to go . . .

3 Third Section

Standard LATEX practice is to write inline math by enclosing it between \(...\):

In physics, the mass-energy equivalence is stated by the equation $E = mc^2$, discovered in 1905 by Albert Einstein.

Instead of writing (enclosing) inline math between \(...\) you can use $...$ to achieve the same result:

In physics, the mass-energy equivalence is stated by the equation $E = mc^2$, discovered in 1905 by Albert Einstein.

Or, you can use \begin{math}...\end{math}:

In physics, the mass-energy equivalence is stated by the equation $E = mc^2$, discovered in 1905 by Albert Einstein.

4 Fourth Section

Here are examples of equations:
This requires \usepackage{amsmath,amssymb}

$$H_p(q) = -\frac{1}{N}\sum_{i=1}^{N} y_i \cdot \log_{10}(p(y_i)) + (1 - y_i) \cdot \log_{10}(1 - p(y_i)) \tag{1}$$

$$\chi_{\mathbb{Q}}(x) = \begin{cases} 1 & \text{if } x \in \mathbb{Q} \\ 0 & \text{if } x \in \mathbb{R} \setminus \mathbb{Q} \end{cases} \tag{2}$$

$$\text{Prediction}: \varphi(v) = \begin{cases} 1, & \text{if } v \geq 0 \\ 0, & \text{if } v < 0 \end{cases} \tag{3}$$

$$\text{Forward Propagation}: \sum_{i=0}^{m} w_i x_i = v = \vec{w} \cdot \vec{x} \tag{4}$$

$$w_1 x_1 + w_2 x_2 + w_0 = 0 \implies x_2 = \frac{-(w_1 x_1 + w_0)}{w_2} \tag{5}$$

References

[1] M. Gossens, *The LaTeX Companion.* Addison-Wesley, 1993.

[2] A. Einstein, *Zur Elektrodynamik bewegter Körper. (German) [On The Electrodynamics of Moving Bodies].* Annalen der Physik, 1905.

[3] D. Knuth, *Knuth: Computers and Typesetting.* Knuth Printing, 2016.

[4] J. Doe, *The Book With No Title.* Some Publisher, 2020.