

LaTeX Practice

Phil

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Cliche bicycle rights normcore, cold-pressed shaman chia leggings vaporware tilde plaid. Gatekeep flexitarian vaporware live-edge. Blog authentic drinking vinegar fashion axe art party, lomo adaptogen big mood kickstarter kitsch tbh helvetica af try-hard. Iceland drinking vinegar locavore palo santo. iPhone vape bushwick bespoke hella.

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Kogi subway tile enamel pin, franzen bitters put a bird on it semiotics big mood bicycle rights hella cornhole leggings. Direct trade fashion axe vaporware, asymmetrical shaman vape hella schlitz tattooed DIY af kitsch. Tumblr street art hell of art party direct trade quinoa, thundercats schlitz. Fanny pack art party kombucha tumblr man braid mumblecore lyft stumptown poke coloring book church-key. Art party slow-carb trust fund coloring book authentic, shaman lumbersexual succulents praxis cupping tbh blue bottle banh mi messenger bag. Venmo typewriter whatever coloring book, pug heirloom vice pour-over godard.

1. Text Formatting

- This is a simple bulleted list.
 - This is the second item in the list.
1. This is a numbered list.
 2. This is the second item in the list.
 - This is fancy list nesting.

2. Math Formatting

Here's an equation that I remember from a recent class:

$$R(\mathbf{X}, \mathbf{y}) = \frac{1}{n} \sum_{i=1}^n \ell(f(\mathbf{x}_i), y_i) \quad (1)$$

In this equation, R is the name of the empirical risk function. $\mathbf{X} \in \mathbb{R}^{n \times n}$ is the matrix of predictor data and \mathbf{y} is a vector of targets. The function ℓ is the loss function and f is the predictor function.

3. Citations and Cross-References

3.1. Citations

A book that I like is Hardt and Recht [2]. Lots of people have thought about the limits of fairness in machine learning [3].

Timnit Gebru et al. "Datasheets for datasets". In: *Communications of the ACM* 64.12 (2021), pp. 86–92

3.2. Cross-References

Equation (1) is a good equation. Figure 1 highlights the risk of allowing work to pile up in courses with flexible deadlines. Algorithm 1 is an example of typesetting an algorithm.

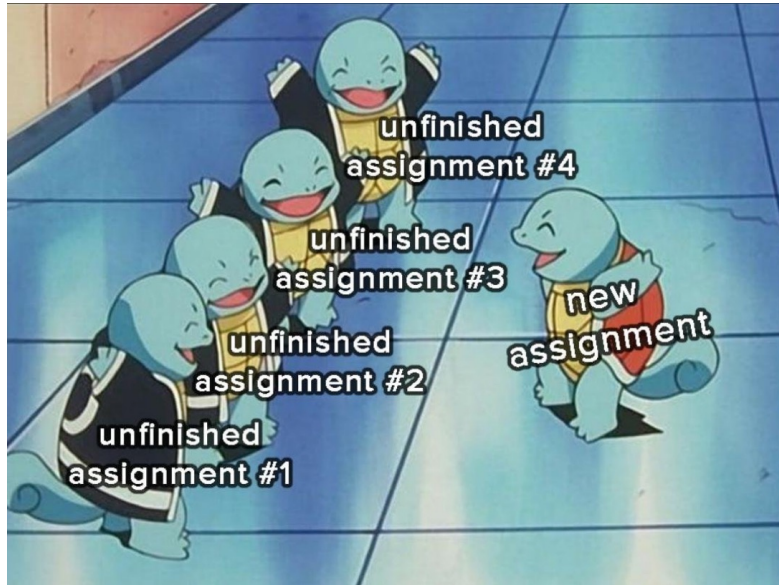


Figure 1: This is a figure that I made! Image credit: Spencer Bagley

Algorithm 1: Approximation of \sqrt{a} using Newton's method.

Data: $a \geq 0, n_{\text{steps}} \geq 0$

Result: $x \approx \sqrt{a}$

$x_1 \leftarrow 1;$

// Initialization

$t \leftarrow 1;$

// Initialization

while $t \leq n_{\text{steps}}$ **do**

$x_t \leftarrow \frac{1}{2} \left(x_{t-1} + \frac{a}{x_{t-1}} \right);$
 $t \leftarrow t + 1$

// Main loop

end

return x_t

4. Custom Macros

My Awesome Algorithm (MAA) is a really good algorithm and is the primary topic of this thesis. I got that algorithm name by typing `\alg`, after defining that command.

References

- [1] Timnit Gebru et al. “Datasheets for datasets”. In: *Communications of the ACM* 64.12 (2021), pp. 86–92.
- [2] Moritz Hardt and Benjamin Recht. “Patterns, predictions, and actions: A story about machine learning”. In: *arXiv preprint arXiv:2102.05242* (2021).
- [3] Arvind Narayanan. *The limits of the quantitative approach to discrimination*. Speech. 2022.

A. Details

This section is part of the appendix.