CytokineFinder: identifying disease associated cytokines

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Abstract. The abstract should briefly summarize the contents of the paper in 150–250 words.

Keywords: First keyword · Second keyword · Another keyword

1 Introduction

- importance of identifying driver cytokines
- mention limitations in publicly available cytokine data
- state hypothesis: using gene expression data we can identify the driver cytokines of disease

2 Methods

2.1 public cytokine data curation

- cytokine stimulations
- anti-cytokine treatment
- studies with paired gene-expression and protein data

2.2 study data

- asthma gene expression data
- validate with cytokien protein levels

2.3 cytokneFinder

- add workflow diagram of study (figure 1)
- briefly describe each method; but add more details of each method in the supplement

2.4 benchmarking analysis

2.5 data analysis of study data

- apply best method to study data

3 Results

3.1 Benchmarking (figure 2)

– impact of annotations
– which method+ann works best

3.2 study results

– patient demographics
– cytokine finder results with study data
– hypothesis testing for significant cytokines

4 Discussion

4.1 A Subsection Sample

Please note that the first paragraph of a section or subsection is not indented. The first paragraph that follows a table, figure, equation etc. does not need an indent, either.

Subsequent paragraphs, however, are indented.

Sample Heading (Third Level) Only two levels of headings should be numbered. Lower level headings remain unnumbered; they are formatted as run-in headings.

Sample Heading (Fourth Level) The contribution should contain no more than four levels of headings. Table 1 gives a summary of all heading levels.
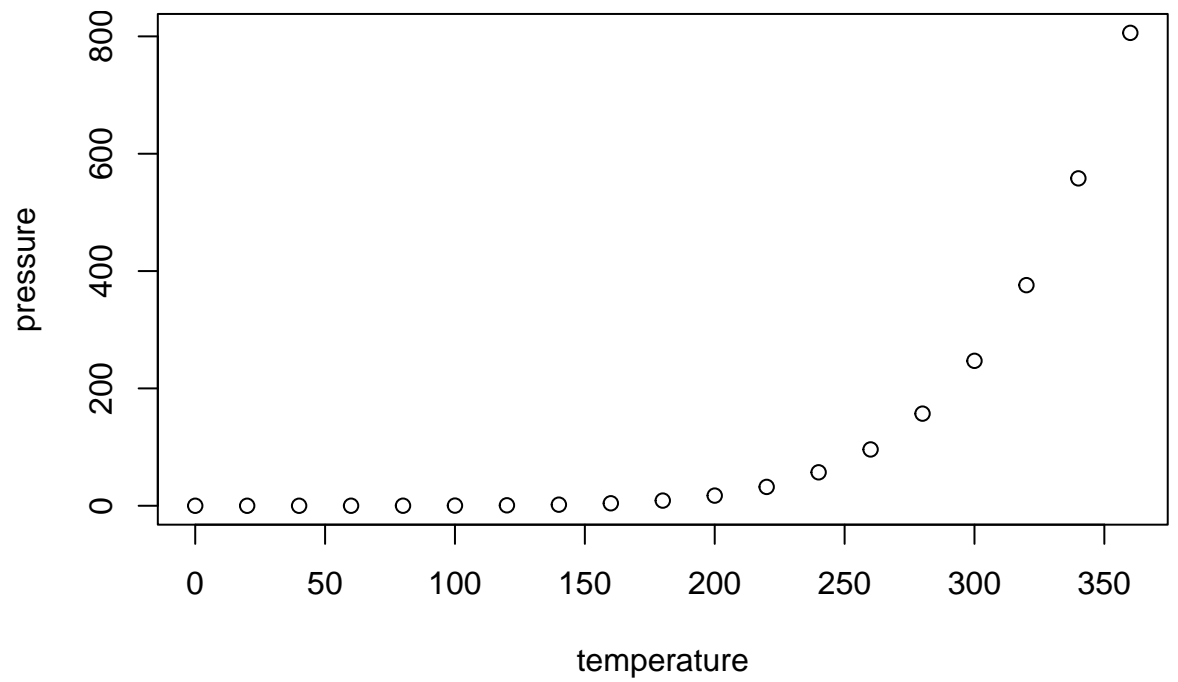
Table 1. Table captions should be placed above the tables.

temperature	pressure
0	0.0002
20	0.0012
40	0.0060
60	0.0300
80	0.0900
100	0.2700

Displayed equations are centered and set on a separate line.

$$x + y = z \tag{1}$$

Please try to avoid rasterized images for line-art diagrams and schemas. Whenever possible, use vector graphics instead (see Fig. 1).

Fig. 1. A figure caption is always placed below the illustration. Please note that short captions are centered, while long ones are justified by the macro package automatically.

Theorem 1. *This is a sample theorem. The run-in heading is set in bold, while the following text appears in italics. Definitions, lemmas, propositions, and corollaries are styled the same way.*

The environments 'definition', 'lemma', 'proposition', 'corollary', 'remark', and 'example' are defined in the LLNCS documentclass as well.

Proof. Proofs, examples, and remarks have the initial word in italics, while the following text appears in normal font.

For citations of references, use [1]. Multiple citations are grouped [2], [3].

Acknowledgements Please place your acknowledgments at the end of the paper, preceded by an unnumbered run-in heading (i.e. 3rd-level heading).

References

1. Nuncio, M., Luis, A.J., Yuan, X.: Topographic meandering of Antarctic Circumpolar Current and Antarctic Circumpolar Wave in the ice-ocean-atmosphere system. Geophysical Research Letters. 38, 1–5 (2011). https://doi.org/10.1029/2011GL046898.

2. Levitus, S., Yarosh, E.S., Zweng, M.M., Antonov, J.I., Boyer, T.P., Baranova, O.K., Garcia, H.E., Locarnini, R.A., Mishonov, A.V., Reagan, J., Seidov, D.: World ocean heat content and thermosteric sea level change (0-2000), 1955-2010. Geophysical Research Letters. 39, 1–5 (2012). https://doi.org/10.1029/2012GL051106.

3. Raphael, M.N.: A zonal wave 3 index for the Southern Hemisphere. Geophysical Research Letters. 31, 1–4 (2004). https://doi.org/10.1029/2004GL020365.