LaTeX Template for Preparing an Article for I524

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December 20, 2016

This template can be used to prepare a research article for I524. Note that this template can be run from your own TEX system or within the cloud-based Overleaf system or Sharelatex systems.

Keywords: Cloud, I524

https://github.com/cloudmesh/classes/blob/master/docs/source/format/report/report.pdf

1. INTRODUCTION

This template is designed to assist with creating an article for I524. The page length is typically done without images. Thus if you have images in your report, please add additional content to offset the space captured by images. We do not check exactly, so there is no reason to contact us if you are a paragraph short, but if you are half a page short you may add quality content.

2. EXAMPLES OF ARTICLE COMPONENTS

The sections below show examples of different article components.

3. FIGURES AND TABLES

It is not necessary to place figures and tables at the back of the manuscript. Figures and tables should be sized as they are to appear in the final article. Do not include a separate list of figure captions and table titles.

Figures and Tables should be labelled and referenced in the standard way using the `\label{}` and `\ref{}` commands.

A. Sample Figure

Figure 1 shows an example figure.

B. Sample Table

Table 1 shows an example table.

4. SAMPLE EQUATION

Let $X_1, X_2, \ldots, X_n$ be a sequence of independent and identically distributed random variables with $\mathrm{E}[X_i] = \mu$ and $\mathrm{Var}[X_i] = \sigma^2 < \infty$, and let

$$S_n = \frac{X_1 + X_2 + \cdots + X_n}{n} = \frac{1}{n}\sum_{i}^{n} X_i \qquad (1)$$

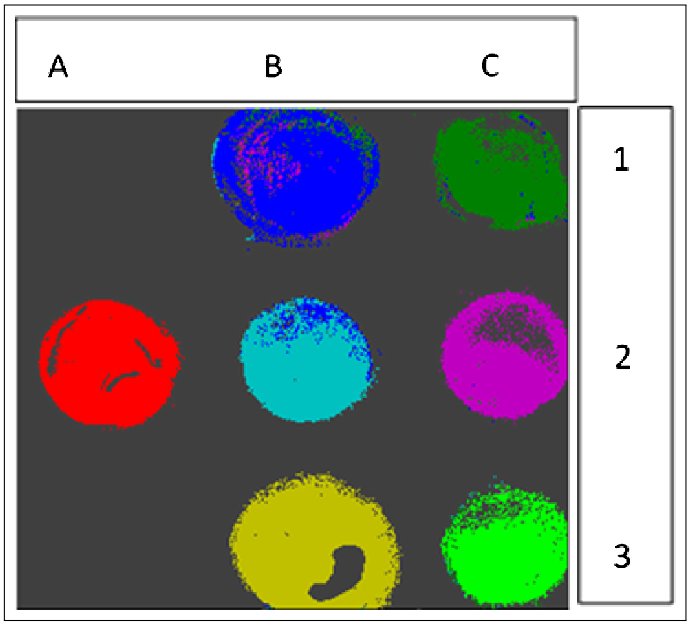

Fig. 1. False-color image, where each pixel is assigned to one of seven reference spectra.

Table 1. Shape Functions for Quadratic Line Elements

local node	$\{N\}_m$	$\{\Phi_i\}_m$ $(i = x, y, z)$
$m = 1$	$L_1(2L_1 - 1)$	Φ_{i1}
$m = 2$	$L_2(2L_2 - 1)$	Φ_{i2}
$m = 3$	$L_3 = 4L_1L_2$	Φ_{i3}

denote their mean. Then as n approaches infinity, the random variables $\sqrt{n}(S_n - \mu)$ converge in distribution to a normal $\mathcal{N}(0, \sigma^2)$.

5. SAMPLE ALGORITHM

Algorithms can be included using the commands as shown in algorithm 1.

Algorithm 1. Euclid's algorithm

```
1: procedure EUCLID(a, b)                ▷ The g.c.d. of a and b
2:     r ← a mod b
3:     while r ≠ 0 do                    ▷ We have the answer if r is 0
4:         a ← b
5:         b ← r
6:         r ← a mod b
7:     return b                          ▷ The gcd is b
```

Algorithm 2. Python example

```
1  for i in range(0,100):
2    print i
```

6. REFERENCE MANAGEMENT

The best programs to manage your references is jabref or emacs. You can edit the references and verify them with them for format errors. To cite them use the citation key. You can add multiple bib files to the bibliography command separated by comma. Add citations with the cite command. See [1–3].

7. SUPPLEMENTAL MATERIAL

You can include an appendix with important information and additional figures if needed. HOwever they must be referenced and follow the same guidelines as in the main text. All materials must be associated with a figure, table, or equation or be referenced in the results section of the manuscript. (1) 2D and 3D image files and video must be labeled "Visualization," not "Movie," "Video," "Figure," etc. (2) Machine-readable data (for example, csv files) must be labeled "Data File." Number data files and visualizations consecutively, e.g., "Visualization 1, Visualization 2. . . ." (3) Large datasets or code files must be placed in an open, archival database. Such items should be mentioned in the text as either "Dataset" or "Code," as appropriate, and also be cited in the references list. For example, "see Dataset 1 (Ref. [1]) and Code 1 (Ref [2])." Here are examples of the references:

A. Sample Dataset Citation

1. M. Partridge, "Spectra evolution during coating," figshare (2014) [retrieved 13 May 2015], http://dx.doi.org/10.6084/m9.figshare.1004612.

B. Sample Code Citation

2. C. Rivers, "Epipy: Python tools for epidemiology" (Figshare, 2014) [retrieved 13 May 2015], http://dx.doi.org/10.6084/m9.figshare.1005064.

ACKNOWLEDGEMENTS

Funding information should be listed in this section. Please evaluate if you like to list your employer that may have funded your activities here. If you receive grants or project numbers, as shown in the example. This work was in part supported by National Science Foundation (NSF) (1234567, 891012345) (These numbers are invented)

The acknowledgments may also contain any information that is not related to funding:

The authors thank H. Haase, C. Wiede, and J. Gabler for technical support.

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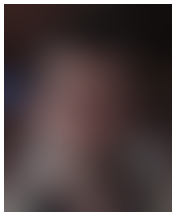
AUTHOR BIOGRAPHIES



John Smith received his BSc (Mathematics) in 2000 from The University of Maryland. His research interests include lasers and optics.

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Bruce Wayne received his BSc (Aeronautics) in 2000 from Indiana University. His research interests include lasers and optics.

A. WORK BREAKDOWN

The work on this project was distributed as follows between the authors:

John Smith. Explored the deep mathematical knowledge needed for this paper and taught it to the other authors.

Alice Smith. She explored the world of Oz and was instrumental to work on the deployment of hadoop.

Bruce Wayne. He did not contribute at all to this paper and flew around to safe the world.