

Project 1

Shimian Zhang

January 27, 2021

Abstract

Brief Abstract describing the project.

Contents

1	Introduction	2
1.1	Type-style and fonts	2
1.2	Footnotes	2
1.3	References	2
1.4	Illustrations, graphs, and photographs	2
1.5	Mathematics	3
1.6	Miscellaneous	4
2	Approach	4
2.1	Data	4
2.2	Methods	5
2.2.1	Regression using error minimization	5
3	Results	5
4	Conclusion	5

1 Introduction

Write what you are planning on doing, a bit of information about each one, any troubles you had with the project. Make sure to cite anything. The following are some useful rules for publishing in CVPR.

1.1 Type-style and fonts

Wherever Times is specified, Times Roman may also be used. If neither is available on your word processor, please use the font closest in appearance to Times to which you have access.

1.2 Footnotes

Please use footnotes¹ sparingly. Indeed, try to avoid footnotes altogether and include necessary peripheral observations in the text (within parentheses, if you prefer, as in this sentence). If you wish to use a footnote, place it at the bottom of the column on the page on which it is referenced. Use Times 8-point type, single-spaced.

1.3 References

List and number all bibliographical references in 9-point Times, single-spaced, at the end of your paper. When referenced in the text, enclose the citation number in square brackets, for example [?]. Where appropriate, include the name(s) of editors of referenced books.

1.4 Illustrations, graphs, and photographs

All graphics should be centered. Please ensure that any point you wish to make is resolvable in a printed copy of the paper. Resize fonts in figures to match the font in the body text, and choose line widths which render effectively in print.

Item		
Animal	Description	Price (\$)
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.50
Emu	stuffed	33.33
Armadillo	frozen	8.99

Table 1: Results. Ours is better.

When placing figures in L^AT_EX, it's almost always best to use `\includegraphics`, and to specify the figure width as a multiple of the line width as in the example below

¹This is what a footnote looks like. It often distracts the reader from the main flow of the argument.

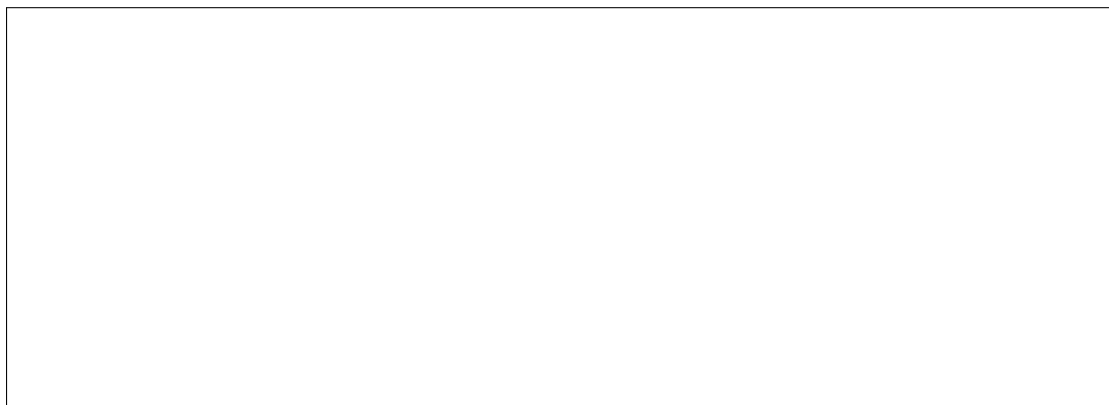


Figure 1: Example of caption. It is set in Roman so that mathematics (always set in Roman: $B \sin A = A \sin B$) may be included without an ugly clash.

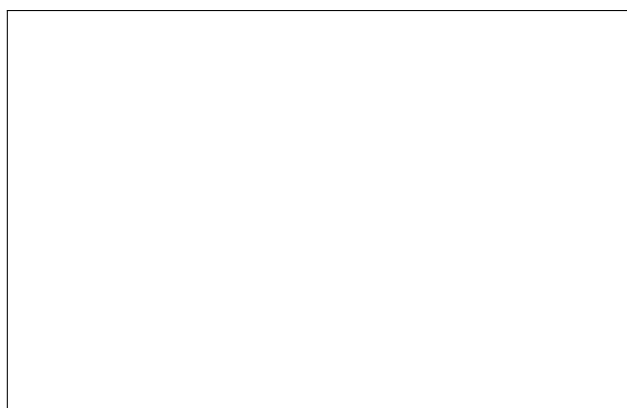


Figure 2: Example of a short caption, which should be centered.

```
\usepackage[dvips]{graphicx} ...
\includegraphics[width=0.8\linewidth]
    {myfile.eps}
```

Figure and table captions should be 9-point Roman type as in Figures 1 and 2 and Table 1 and dynamically referenced with `\label{fig:<figure name>}` or `\label{tab:<table name>}` in the figure or table environment and `Figure~\ref{fig:<figure name>}` or `Table~\ref{tab:<table name>}`. Replace `<figure name>` or `<table name>` with a short, descriptive name (which only used for referencing them in these commands). Look at these example references to Figures 1 and 2 and Table 1 for example. You can also use this for referring to equations (such as in Equations 1 and 2) or a section such as this reference to Section 1.5.

1.5 Mathematics

Please number all of your sections and displayed equations. It is important for readers to be able to refer to any particular equation. Just because you didn't refer to it in the text doesn't mean some future reader might not need to refer to it. It is cumbersome

$$\begin{array}{ll} \text{\$conf_a\$} & \text{conf}_a \\ \text{\$}\mathit{\text{conf}}\text{\$}_a & \text{conf}_a \end{array}$$

Table 2: Two examples of ways to write math equations. See The T_EXbook, p165.

to have to use circumlocutions like “the equation second from the top of page 3 column 1”. (Note that the ruler will not be present in the final copy, so is not an alternative to equation numbers). All authors will benefit from reading Mermin’s description of how to write mathematics: <http://www.pamitc.org/documents/mermin.pdf>.

Some example equations are shown in Equations 1 and 2.

$$E(\mathbf{w}) = \frac{1}{2} \sum_{n=1}^N \{y(x_n, \mathbf{w}) - t_n\}^2 \quad (1)$$

Equation 2 shows how to align multiple equations together (which would be useful for your derivations).

$$E(\mathbf{w}) = \frac{1}{2} \sum_{n=1}^N \{y(x_n, \mathbf{w}) - t_n\}^2 \quad (2)$$

$$= \frac{1}{2} \sum_{n=1}^N \{y(x_n, \mathbf{w}) - t_n\}^2 + \frac{\lambda}{2} \|\mathbf{w}\|^2 \quad (3)$$

1.6 Miscellaneous

Compare the two examples of mathematical equations in Table 2.

The space after *e.g.*, meaning “for example”, should not be a sentence-ending space. So *e.g.* is correct, *e.g.* is not. The provided `\eg` macro takes care of this.

When citing a multi-author paper, you may save space by using “et alia”, shortened to “*et al.*” (not “*et. al.*” as “*et*” is a complete word.) However, use it only when there are three or more authors. Thus, the following is correct: “Frobnication has been trendy lately. It was introduced by Alpher [?], and subsequently developed by Alpher and Fotheringham-Smythe [?], and Alpher *et al.* [?].”

This is incorrect: “... subsequently developed by Alpher *et al.* [?] ...” because reference [?] has just two authors. If you use the `\etal` macro provided, then you need not worry about double periods when used at the end of a sentence as in Alpher *et al.*

2 Approach

2.1 Data

Describe all the data you used using exact amounts. For later projects, how you extracted the features out of the data.

2.2 Methods

Describe the methods you used in your project. For example, any derivations or proofs you have used.

2.2.1 Regression using error minimization

An example `\subsubsection{}` to organize your multiple methods.

Example Paragraph: You may also use `\paragraph{}` if you don't want it numbered and the text to start on the same line.

3 Results

You detailed results including figures and tables for each of your experiments. Make sure to refer to each figure and table in your text.

4 Conclusion

Your take away from the project. Any major issues you had while accomplishing the project. Maybe add suggestions for any improvement to the project.

References

- [1] Christopher M. Bishop. *Pattern Recognition and Machine Learning*. Springer Sciences Media, 2006.