

Artificial Neural Networks and Deep Learning Homework 1

Nicola Dean

10617541

nicola.dean

@mail.polimi.it

Marco Fasanella

10617541

marco.fasanella

@mail.polimi.it

Raffaello Fornasiere

10617541

raffaello.fornasiere

@mail.polimi.it

Christian Spano

10617541

christian.spano

@mail.polimi.it

Abstract

This document provides a basic template for the 2-page extended abstract and some submission guidelines. The authors' names and affiliations should not be included.¹ Including an abstract is optional, as the document itself is an extended abstract. If included, an abstract should be a single paragraph.

Keywords: VGG16, VGG19, Helpful

1 Introduction

We have based this SDSS template almost entirely on the template for the annual conference of the Association for Computational Linguistics (ACL), whose template includes the following paragraph of credits:

This document has been adapted from the instructions for earlier ACL proceedings, including those for ACL-2012 by Maggie Li and Michael White, those from ACL-2010 by Jing-Shing Chang and Philipp Koehn, those for ACL-2008 by Johanna D. Moore, Simone Teufel, James Allan, and Sadaaki Furui, those for ACL-2005 by Hwee Tou Ng and Kemal Oflazer, those for ACL-2002 by Eugene Charniak and Dekang Lin, and earlier ACL and EACL formats. Those versions were written by several people, including John Chen, Henry S. Thompson and Donald Walker. Additional elements were taken from the formatting instructions of the *International Joint Conference on Artificial Intelligence*.

2 Methods

In preparing the extended abstract, we strongly encourage using the same four section headings seen here, namely, Introduction, Methods, Data (or Results), and Discussion (or Conclusions). Use of subsections is at the authors' discretion; see Section 2.2.

2.1 Font Sizes and Layout

Extended abstracts should be no more than two pages, including references, in 10-point Times Roman font and two-column format, and must be submitted as pdf documents. The L^AT_EX template automatically uses the newtx package if available or times if not to select

¹Footnotes are also in smaller font. See Table ?? for a list of font sizes.

Times Roman. Please avoid changing the font size except, if desired, in the case of an extended quotation as demonstrated above.

Both L^AT_EX and MS Word templates may be downloaded by visiting the conference website:

github.com/SDSS2020/SDSS-templates

Margins should not be altered from those used in the template files.

Frozen Layers	Accuracy	Precision	Recall	F1
8	0.8169	0.7989	0.7651	0.763
9	0.8225	0.8181	0.7682	0.7776
10	0.8338	0.8161	0.7929	0.8001
11	0.7577	0.7109	0.715	0.7048
12	0.7944	0.766	0.7504	0.7489
13	0.8028	0.7806	0.754	0.7596

Table 1: Results with Transfer Learning and Number of frozen layers for VGG19.

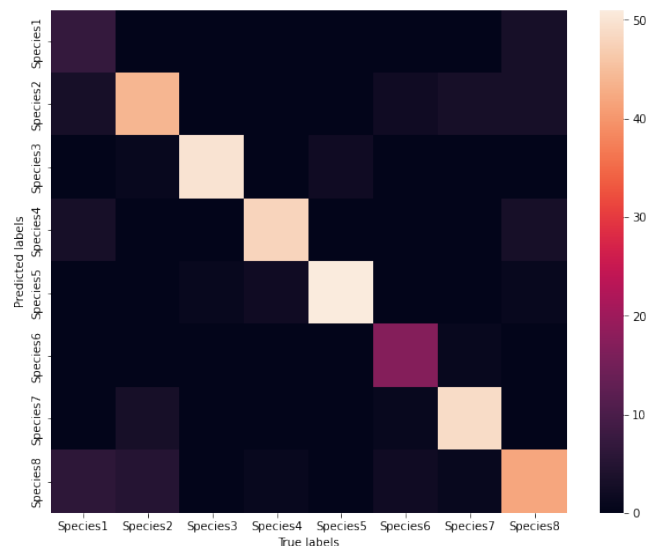


Figure 1: Confusion Matrix of best configuration with VGG19.

2.2 Sections

Headings: While it is permissible to use bold print to introduce a paragraph as seen here, please use

the `\section`, `\subsection`, and `\subsubsection` commands as in this L^AT_EX document. If you are using MS Word, please duplicate the numbering and font-size conventions in this document.

2.2.1 Numbering Sections

As shown here, all sections, sub-sections, and sub-subsections are numbered.

2.3 Citations

In L^AT_EX, please use the `sdss2020` bibliography style, as demonstrated by this example document. MS Word users should duplicate the citation and reference section format seen here.

Citations within the text appear in parentheses as (?) or, if the author’s name appears in the text itself, as Nussbaum (?). Treat double authors as in (?), but write as in (?) when more than two authors are involved. Collapse multiple citations as in (? ; ?). As alluded to above, full citations should not be used as sentence constituents. For instance, instead of

“(?) found the first p -value ...”

use

“Arbutnot (?) found the first p -value ...”.

Please make references complete, presentable, and consistent. When using BibT_EX, protect capital letters of names and abbreviations in titles, as in {B}ayesian or {EM} algorithm, in your .bib file. For an example, notice that the “FDA” in the title of (?) is typed as {FDA} in the .bib file or else it would be incorrectly shown as “fda” in the references section.

2.4 Footnotes

Footnotes: In L^AT_EX, use the `\footnote` command². If using MS Word, please separate footnotes from the text by a line³.

3 Data/Results

We encourage the selective use of tables and/or figures as appropriate.

3.1 Graphics and Tables

Place figures and tables in the paper near where they are first discussed, rather than at the end, if possible. It is acceptable that wide illustrations may run across both columns. The use of color is allowed in extended abstract graphics.

3.2 Captions

Provide a caption below every figure and table; number each one sequentially in the form shown in Figure 1 and Table ??.

²This is how a footnote should appear.

³Note the line separating the footnotes from the text.

4 Discussion/Conclusions

4.1 Appendices and Acknowledgements

Please avoid the use of appendices and acknowledgements as separate sections. Any pertinent material should be included in the body of the extended abstract rather than in an appendix. If acknowledgements are necessary, then they should be made using footnotes.

4.2 Computer Code

If you wish to provide links to accompanying code, this is allowable because SDSS encourages best practices for reproducible research. However, all conclusions and exposition relevant to the refereeing process should appear in the body of the extended abstract; furthermore, we cannot guarantee that code will be checked or even consulted during the refereeing process.

4.3 Refereeing Decisions

The review is **anonymous**. Accepted papers must be presented in person at SDSS in St. Louis from May 23 to 26, 2023. Accepted papers’ authors will be notified in plenty of time to make registration and travel arrangements and for papers not accepted to submit a lightning abstract to the conference if they so choose.