

Instructions for Submitting a Project Description to the Archaeology of Intelligent Machines

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Abstract

Important to read: this document is the template that contains the report of your project. The abstract contains a short summary of your theme and report. It is important to submit the description in English and to write at least two pages. If you have difficulties in writing in English, Romanian may also be used. It is mandatory to add an Abstract, Sections 1, 2, 3, 4, and References.

How to start

1. gather some colleagues and make a team of **maximum 3 people**
2. choose a topic that you would like to research (see the project list on the website or propose your own)
3. make sure your topic does not overlap with other topics that are in progress and that have been chosen by your colleagues
4. email Sergiu, Sasha, Mircea to announce your team, your proposal and to discuss how to approach it
5. after you obtain the approval, start working on it
6. prepare the project, the report (using this template), and a presentation
7. place everything in a digital storage space somewhere: a git repo, a google drive, some file on a server etc.; don't send large files by email, send only URLs
8. current deadline **December 12** mid-term; January 18 (to finalize most of the projects)

Evaluation Criteria

- Project members are evaluated individually. If there's a person who did not have any contribution to the project, they risk failing the course.
1. 25% project complexity
 2. 25% open-source code to reproduce the results
 3. 25% the quality of this report in English using the current template
 4. 25% how you talk about / present your contribution per individual member (each member must say something), contribution to the project is measured per individual member and should be highlighted in the report

What is this thing called "contribution"?

You may create something new, extend something already created, or understand → teach → present something that already exists **in relation to topics discussed in class**.

Use your imagination. Below are a few examples:

1. creates something from scratch (code, data, resources, evaluation)
2. add something new to an existing idea, extend it in some way
3. implement an existing idea that does not have open-source or reproducible code; make it reproducible, add clear instructions
4. take an existing idea and make a detailed presentation for other people to understand, analyze its building blocks, present each part in details; think of this as a standalone tutorial
5. take an existing idea and compile a survey of all the things that have been tried in literature

066	(read all the possible literature and summarize it)	074
067		
068	Archaeology of Intelligent Machines is an experimental course, there's no good or bad topic that you can choose, you may go deeply into the underlying mathematical foundations of an algorithm, in its history, or in its contemporary socio-political impact.	075
069		076
070		077
071		
072		
073		
	1 Introduction	
	This section is mandatory in your report. In the introduction make sure to cover the following parts:	
	• what is the problem that we are trying to solve	078
	• a bullet point list of contributions that we made, per each member	079
	• a summary of the approach	080
	• why we chose to approach this project	081
	• what other research has been done on this idea	082
	• citations with previous work like this (Aho and Ullman, 1972) and mention in a paragraph what the previous work is about	083
	• if your project's aim is to reproduce an existing paper, you must :	084
	- try to understand as much as possible what has been done in the paper	085
	- highlight what you did not understand from the approach ¹	086
	• each author must mention what they learned and what they would want to learn in the future, related to this project	087
		088
	2 Approach	089
	This section is mandatory in your report. In this section you must describe the approach you have taken to create this project. Make sure to explain every step in the process, just like you would explain it to your younger self or someone who does not know anything about the topic.	090
	Cover at least the following aspects:	091
	1. a link to a git /drive repository where your code/data is located	092
	2. what software tools you have used	093
	3. how long did the training / processing took?	094
	4. what kind of machine learning / deep learning tools you used and what architecture	095
	5. what tricks you tried (gradient clipping, batch normalization), if any	096

¹It's okay **not** to know and to admit it (don't be afraid, you will not be evaluated based on what you did not understand.)

112	6. an evaluation report of your method	137
113	7. insert tables, images ² , or anything that may	138
114	convince a reader about the validity of your	139
115	work	140
116	3 Limitations	141
117	This section is mandatory in your report. While	142
118	we are open to different types of limitations, just	143
119	mentioning that a set of results have been shown for	
120	English only probably does not reflect what we ex-	
121	pect. In addition, limitations such as low scalability,	
122	the requirement of large GPU resources, or other	
123	things that inspire crucial further investigation are	
124	welcome.	
125	4 Conclusions and Future Work	
126	This section is mandatory in your report, but it	
127	is more informal, don't be afraid to be honest, the	
128	evaluation will biased positively by your honesty.	
129	Try to cover some of the following aspects:	
130	• now that we did this project, is there anything	
131	we could have done different?	
132	• is there any way of improving this project?	
133	• did we like this project or not? (seriously)	
134	• did we learn anything new by doing this?	
135	• suggestions for future projects at this course	
136	• how could things have been more enjoyable?	
	5 About this template	
	The templates include the L ^A T _E X source of this doc-	
	ument (<code>acl.tex</code>), the L ^A T _E X style file used to	
	format it (<code>acl.sty</code>), an ACL bibliography style	
	(<code>acl_natbib bst</code>), an example bibliography	
	(<code>custom.bib</code>), and the bibliography for the ACL	
	Anthology (<code>anthology.bib</code>).	
	5.1 Compiling L^AT_EX	144
	To produce a PDF file, pdfl ^A T _E X is strongly recom-	145
	mended (over original L ^A T _E X plus dvips+ps2pdf or	146
	dvipdf). XeL ^A T _E X also produces PDF files, and is	147
	especially suitable for text in non-Latin scripts.	148
	Use any engine, including overleaf to generate	149
	a pdf file. Use that pdf file to submit your final	150
	project.	151
	5.2 Preamble	152
	The first line of the file must be	153
	<code>\documentclass[11pt]{article}</code>	154
	To load the style file in the review version:	155
	<code>\usepackage[review]{acl}</code>	156
	For the final version, omit the <code>review</code> option:	157
	<code>\usepackage{acl}</code>	158
	To use Times Roman, put the following in the	159
	preamble:	160
	<code>\usepackage{times}</code>	161
	(Alternatives like txfonts or newtx are also accept-	162
	able.)	163
	Please see the L ^A T _E X source of this document for	164
	comments on other packages that may be useful.	165
	Set the title and author using <code>\title</code> and	166
	<code>\author</code> . Within the author list, format multiple	167
	authors using <code>\and</code> and <code>\And</code> and <code>\AND</code> ; please	168
	see the L ^A T _E X source for examples.	169
	By default, the box containing the title and au-	170
	thor names is set to the minimum of 5 cm. If	171
	you need more space, include the following in the	172
	preamble:	173
	<code>\setlength{\titlebox}{<dim>}</code>	174
	where <code><dim></code> is replaced with a length. Do not set	175
	this length smaller than 5 cm.	176

²if you take images from the web or from an external source, please cite the source appropriately

Command	Output	Command	Output
{\"a}	ä	{\c c}	ç
{\^e}	ê	{\u g}	gó
{\'i}	í	{\l }	ł
{.\I}	Í	{\~n}	ñ
{\o}	ø	{\H o}	ó
{\'u}	ú	{\v r}	ŕ
{\aa}	å	{\ss}	ß

Table 1: Example commands for accented characters, to be used in, *e.g.*, Bib \TeX entries.

5.3 Document Body

5.4 Footnotes

Footnotes are inserted with the `\footnote` command.³

5.5 Tables and figures

See Table 1 for an example of a table and its caption. **Do not override the default caption sizes.**

5.6 Hyperlinks

Users of older versions of \TeX may encounter the following error during compilation:

```
\pdfendlink ended up in
different nesting level
than \pdfstartlink.
```

This happens when pdf \TeX is used and a citation splits across a page boundary. The best way to fix this is to upgrade \TeX to 2018-12-01 or later.

5.7 Citations

Table 2 shows the syntax supported by the style files. We encourage you to use the natbib styles. You can use the command `\citet` (cite in text) to get “author (year)” citations, like this citation to a paper by [Gusfield \(1997\)](#). You can use the command `\citep` (cite in parentheses) to get “(author, year)” citations ([Gusfield, 1997](#)). You can use the command `\citealp` (alternative cite without parentheses) to get “author, year” citations, which is useful for using citations within parentheses (*e.g.* [Gusfield, 1997](#)).

5.8 References

The \TeX and Bib \TeX style files provided roughly follow the American Psychological Association format. If your own bib file is named `custom.bib`,

then placing the following before any appendices in your \TeX file will generate the references section for you:

```
\bibliographystyle{acl_natbib}
\bibliography{custom}
```

You can obtain the complete ACL Anthology as a Bib \TeX file from <https://aclweb.org/anthology/anthology.bib.gz>. To include both the Anthology and your own .bib file, use the following instead of the above.

```
\bibliographystyle{acl_natbib}
\bibliography{anthology,custom}
```

Please see Section 5.9 for information on preparing Bib \TeX files.

5.9 Bib \TeX Files

Unicode cannot be used in Bib \TeX entries, and some ways of typing special characters can disrupt Bib \TeX ’s alphabetization. The recommended way of typing special characters is shown in Table 1.

Please ensure that Bib \TeX records contain DOIs or URLs when possible, and for all the ACL materials that you reference. Use the `doi` field for DOIs and the `url` field for URLs. If a Bib \TeX entry has a URL or DOI field, the paper title in the references section will appear as a hyperlink to the paper, using the `hyperref` \TeX package.

Acknowledgements

No need to add this to your project, but this template is keeping it to give the right credits.

This document has been adapted by Steven Bethard, Ryan Cotterell and Rui Yan from the instructions for earlier ACL and NAACL proceedings, including those for ACL 2019 by Douwe Kiela and Ivan Vulić, NAACL 2019 by Stephanie Lukin and Alla Roskovskaya, ACL 2018 by Shay Cohen, Kevin Gimpel, and Wei Lu, NAACL 2018 by Margaret Mitchell and Stephanie Lukin, Bib \TeX suggestions for (NA)ACL 2017/2018 from Jason Eisner, ACL 2017 by Dan Gildea and Min-Yen Kan, NAACL 2017 by Margaret Mitchell, ACL 2012 by Maggie Li and Michael White, ACL 2010 by Jing-Shin Chang and Philipp Koehn, ACL 2008 by Johanna D. Moore, Simone Teufel, James Allan, and Sadaoki Furui, ACL 2005 by Hwee Tou Ng and Kemal Oflazer, ACL 2002 by Eugene Charniak and Dekang Lin, and earlier ACL and EACL formats written by several people, including John

³This is a footnote.

Output	natbib command	Old ACL-style command
(Gusfield, 1997)	\citep	\cite
Gusfield, 1997	\citealp	no equivalent
Gusfield (1997)	\citet	\newcite
(1997)	\citeyearpar	\shortcite

Table 2: Citation commands supported by the style file. The style is based on the natbib package and supports all natbib citation commands. It also supports commands defined in previous ACL style files for compatibility.

Chen, Henry S. Thompson and Donald Walker. Additional elements were taken from the formatting instructions of the *International Joint Conference on Artificial Intelligence* and the *Conference on Computer Vision and Pattern Recognition*.

References

- Alfred V. Aho and Jeffrey D. Ullman. 1972. *The Theory of Parsing, Translation and Compiling*, volume 1. Prentice-Hall, Englewood Cliffs, NJ.
- Rie Kubota Ando and Tong Zhang. 2005. A framework for learning predictive structures from multiple tasks and unlabeled data. *Journal of Machine Learning Research*, 6:1817–1853.
- Galen Andrew and Jianfeng Gao. 2007. Scalable training of L1-regularized log-linear models. In *Proceedings of the 24th International Conference on Machine Learning*, pages 33–40.
- Dan Gusfield. 1997. *Algorithms on Strings, Trees and Sequences*. Cambridge University Press, Cambridge, UK.
- Mohammad Sadegh Rasooli and Joel R. Tetreault. 2015. [Yara parser: A fast and accurate dependency parser](#). *Computing Research Repository*, arXiv:1503.06733. Version 2.