TITLE OF PAPER

FULL NAME
UNIVERSITY
EMAILADDRESS

ABSTRACT

The abstract of your extended abstract should contain a short one paragraph summarization of your planned work.

1 USING THIS TEMPLATE

This template is used to submit an extended abstract for review to the Conference of Aspiring Students in Tech Rhein Main. Each abstract must be written in LaTeX using this template. For submission, please add all relevant information in place of the placeholders. To accept your submission you must at least supply the title and subtitle for the paper. If your paper is accepted, the final version of this paper must also contain your name, university and email address.

To anonymize the paper for the review process, the class of this document must be `\documentclass[sigconf, anonymous]{acmart}`. To make sure that you have a properly anonymized version of your abstract, please make sure that the author name is printed as `Anonymous authors`.

Further information about using this template and examples of LaTeX code can be found in the following sections. Please refrain from adding additional packages to this file. If you absolutely need an additional LaTeX package, you can write a mail to support@castrm.org, and we will check whether it is possible to add your required package to the template. Otherwise, please try to write your paper without the need for additional packages.

It is also important that you refrain from changing the margins, font or other style parameters of this template, since all submissions will be compiled into a single document.

2 SUBMITTING TO CAST

Submitting your abstract to CASTrm is done via the online submission tool https://cfp.cast.informatik.tu-darmstadt.de/. All further questions are answered in the Call for participation published on the website, which is reproduced here for further convenience.

3 CALL FOR PARTICIPATION

3.1 Who can participate as an author?

All students currently enroled at a university or university of applied science

3.2 What is required to apply?

To apply, please hand in an extended abstract. This is a summary of maximum 2 pages which describe your research topics.

- Your topic can be part of an existing bachelor/master thesis, the result of a lab or seminar or an independent work.
- All abstracts must be in English or German .
- All abstracts require literature. Your citations does not count to your page limit.

When applying, you can choose what form your contribution to the conference will take. For the application, the final documents do not need to be handed in, an extended abstract is enough. The following types of contributions will be possible:

- Papers: A paper is a 6-8 page document which describes a scientific topic and some form of contribution to the research community. Applicants whose papers are accepted will have the chance to present their work during the conference to a live audience. Authors can chose to publish their accepted paper in the conference proceedings.
- Demo Papers: A demo paper is 4 - 6 pages long and often describes a tool or framework. Applicants with a demo paper will have the chance to present their tools during the conference. In addition, they can chose to publish their accepted paper in the conference proceedings.
- Posters: A poster presents scientific research on an A1 poster. Posters will be presented in a poster session during which multiple authors will present their posters to a larger audience. The posters themselves will be printed on site, so you do not have to print yours beforehand.
- Workshops: A workshop is an event where practical skills and techniques are presented. If you choose to hold a workshop, you can present your topic to a group of participants in a hands-on session which could include life-coding/hacking etc.

For your extended abstract, please use the conference LaTeX template stencil (available soon). If you encounter any problems using the LaTeX template, please contact the program chair support [at] castrm.org. We will try to find a solution to your problem as soon as possible.

The extended abstract must not contain any personal information which might make it possible to identify the author. This includes, but is not limited to: names, email addresses, etc. This is important for a fair and anonymous review process.

Applications must be assigned to one or more conference tracks. The following topics should be seen as examples and not a full enumeration of possible topics. If you are unsure which track fits your topic best, please contact the programme committee support [at] castrm.org.

- IT and society
  - Possible topics include: social effects of information technology, ethical aspects, (virtual) communities, dual use problem, digital education
- Humans and Computers
  - Possible topics include: image recognition, computer graphics, human computer interfaces, smart devices, virtual and augmented realitiy

CAST Rhein Main, March 2019, Darmstadt, Germany

- Security and correctness
  - Possible topics include: cryptographie, usable security, code analysis, anonymity, verification
- Intelligent systems
  - Possible topics include: machine learning, data science, learning robots, cognitive science, big data analysis
- Computer Science ++
  - This includes all topics which are often summarized under computer science related fields (i.e. medical computing, economics and computer science), and all topics which are not adequatly covered by the tracks provided above (i.e. hardware etc.)

3.3 How do you apply:

- The abstract must be provided as a PDF using the LaTeX template.
- The system for handing in your submission will be available soon
- Our data privacy regulations can be found here: Datenschutz-Informationen (in german)

3.4 What does an extended abstract include:

The extended abstract should be at most two pages long (without citations and references) and should include the following information:

- Topic decription: What problem/question is addressed by the work and what is the general drive of the work?
- Motivation: Why is the topic relevant for scientific enquiry?
- Approach: What techniques/tools/mathematics are used?
- Evaluation: How will the results be evaluated?

The extended abstract does not have to completely answer each of these questions, but should provide a clear and concise overview of the work. The full work will only be required a short time before the conference in the form of your final submission.

When evaluating your submission we will focus on the content of your work and not on perfect orthography or presentation.

3.5 Code of Conduct

We expect all applications and proposals to follow our code of conduct.

3.6 Summary of important dates and deadlines:

(all dates are seen as UTC +2 [Europe/Berlin] 11:59 pm)

- Deadline for the extended abstract: 14. October 2018
- Accept/reject: end of December 2018
- Deadline to register as an author: 15. January 2019
- Deadline for the final submission: end of February 2019
- Publication of the conference schedule: beginning of March 2019
- Date of the CASTrm: 27.03. - 30.03.2019
- Publication of the proceedings: end of April 2019

4 THE BODY OF THE PAPER

Typically, the body of a paper is organized into a hierarchical structure, with numbered or unnumbered headings for sections, subsections, sub-subsections, and even smaller sections. The command `\section` that precedes this paragraph is part of such a hierarchy.[*] LaTeX handles the numbering and placement of these headings for you, when you use the appropriate heading commands around the titles of the headings. If you want a sub-subsection or smaller part to be unnumbered in your output, simply append an asterisk to the command name. Examples of both numbered and unnumbered headings will appear throughout the balance of this sample document.

Because the entire article is contained in the **document** environment, you can indicate the start of a new paragraph with a blank line in your input file; that is why this sentence forms a separate paragraph.

4.1 Type Changes and *Special* Characters

We have already seen several typeface changes in this sample. You can indicate italicized words or phrases in your text with the command `\textit`; emboldening with the command `\textbf` and typewriter-style (for instance, for computer code) with `\texttt`. But remember, you do not have to indicate typestyle changes when such changes are part of the *structural* elements of your article; for instance, the heading of this subsection will be in a sans serif[†] typeface, but that is handled by the document class file. Take care with the use of[‡] the curly braces in typeface changes; they mark the beginning and end of the text that is to be in the different typeface.

You can use whatever symbols, accented characters, or non-English characters you need anywhere in your document; you can find a complete list of what is available in the *LaTeX User's Guide* [26].

4.2 Math Equations

You may want to display math equations in three distinct styles: inline, numbered or non-numbered display. Each of the three are discussed in the next sections.

4.2.1 Inline (In-text) Equations. A formula that appears in the running text is called an inline or in-text formula. It is produced by the **math** environment, which can be invoked with the usual `\begin . . . \end` construction or with the short form `$ . . . $`. You can use any of the symbols and structures, from α to ω, available in LaTeX [26]; this section will simply show a few examples of in-text equations in context. Notice how this equation: $\lim_{n\to\infty} x = 0$, set here in in-line math style, looks slightly different when set in display style. (See next section).

4.2.2 Display Equations. A numbered display equation—one set off by vertical space from the text and centered horizontally—is produced by the **equation** environment. An unnumbered display equation is produced by the **displaymath** environment.

Again, in either environment, you can use any of the symbols and structures available in LaTeX; this section will just give a couple

[*] This is a footnote.
[†] Another footnote here. Let's make this a rather long one to see how it looks.
[‡] Another footnote.

of examples of display equations in context. First, consider the equation, shown as an inline equation above:

$$\lim_{n\to\infty} x = 0 \tag{1}$$

Notice how it is formatted somewhat differently in the **displaymath** environment. Now, we'll enter an unnumbered equation:

$$\sum_{i=0}^{\infty} x + 1$$

and follow it with another numbered equation:

$$\sum_{i=0}^{\infty} x_i = \int_0^{\pi+2} f \tag{2}$$

just to demonstrate LaTeX's able handling of numbering.

4.3 Citations

Citations to articles [6–8, 19], conference proceedings [8] or maybe books [26, 34] listed in the Bibliography section of your article will occur throughout the text of your article. You should use BibTeX to automatically produce this bibliography; you simply need to insert one of several citation commands with a key of the item cited in the proper location in the `.tex` file [26]. The key is a short reference you invent to uniquely identify each work; in this sample document, the key is the first author's surname and a word from the title. This identifying key is included with each item in the `.bib` file for your article.

The details of the construction of the `.bib` file are beyond the scope of this sample document, but more information can be found in the *Author's Guide*, and exhaustive details in the *LaTeX User's Guide* by Lamport [26].

This article shows only the plainest form of the citation command, using `\cite`.

Some examples. A paginated journal article [2], an enumerated journal article [11], a reference to an entire issue [10], a monograph (whole book) [25], a monograph/whole book in a series (see 2a in spec. document) [18], a divisible-book such as an anthology or compilation [13] followed by the same example, however we only output the series if the volume number is given [14] (so Editor00a's series should NOT be present since it has no vol. no.), a chapter in a divisible book [37], a chapter in a divisible book in a series [12], a multi-volume work as book [24], an article in a proceedings (of a conference, symposium, workshop for example) (paginated proceedings article) [4], a proceedings article with all possible elements [36], an example of an enumerated proceedings article [16], an informally published work [17], a doctoral dissertation [9], a master's thesis: [5], an online document / world wide web resource [1, 30, 38], a video game (Case 1) [29] and (Case 2) [28] and [27] and (Case 3) a patent [35], work accepted for publication [31], 'YYYYb'-test for prolific author [32] and [33]. Other cites might contain 'duplicate' DOI and URLs (some SIAM articles) [23]. Boris / Barbara Beeton: multi-volume works as books [21] and [20].

A couple of citations with DOIs: [22, 23].

Online citations: [38–40].

Table 1: Frequency of Special Characters

Non-English or Math	Frequency	Comments
Ø	1 in 1,000	For Swedish names
π	1 in 5	Common in math
\$	4 in 5	Used in business
Ψ_1^2	1 in 40,000	Unexplained usage

Figure 1: A sample black and white graphic.

4.4 Tables

Because tables cannot be split across pages, the best placement for them is typically the top of the page nearest their initial cite. To ensure this proper "floating" placement of tables, use the environment **table** to enclose the table's contents and the table caption. The contents of the table itself must go in the **tabular** environment, to be aligned properly in rows and columns, with the desired horizontal and vertical rules. Again, detailed instructions on **tabular** material are found in the *LaTeX User's Guide*.

Immediately following this sentence is the point at which Table 1 is included in the input file; compare the placement of the table here with the table in the printed output of this document.

To set a wider table, which takes up the whole width of the page's live area, use the environment **table*** to enclose the table's contents and the table caption. As with a single-column table, this wide table will "float" to a location deemed more desirable. Immediately following this sentence is the point at which Table 2 is included in the input file; again, it is instructive to compare the placement of the table here with the table in the printed output of this document.

It is strongly recommended to use the package booktabs [15] and follow its main principles of typography with respect to tables:

(1) Never, ever use vertical rules.
(2) Never use double rules.

It is also a good idea not to overuse horizontal rules.

4.5 Figures

Like tables, figures cannot be split across pages; the best placement for them is typically the top or the bottom of the page nearest their initial cite. To ensure this proper "floating" placement of figures, use the environment **figure** to enclose the figure and its caption.

This sample document contains examples of `.eps` files to be displayable with LaTeX. If you work with pdfLaTeX, use files in the `.pdf` format. Note that most modern TeX systems will convert `.eps` to `.pdf` for you on the fly. More details on each of these are found in the *Author's Guide*.

As was the case with tables, you may want a figure that spans two columns. To do this, and still to ensure proper "floating" placement of tables, use the environment **figure*** to enclose the figure and its caption. And don't forget to end the environment with **figure***, not **figure**!

Table 2: Some Typical Commands

Command	A Number	Comments
`\author`	100	Author
`\table`	300	For tables
`\table*`	400	For wider tables

Figure 2: A sample black and white graphic that has been resized with the `includegraphics` command.

4.6 Theorem-like Constructs

Other common constructs that may occur in your article are the forms for logical constructs like theorems, axioms, corollaries and proofs. CAST uses two types of these constructs: theorem-like and definition-like.

Here is a theorem:

Theorem 4.1. *Let f be continuous on $[a, b]$. If G is an antiderivative for f on $[a, b]$, then*

$$\int_a^b f(t)\,dt = G(b) - G(a).$$

Here is a definition:

Definition 4.2. If z is irrational, then by e^z we mean the unique number that has logarithm z:

$$\log e^z = z.$$

The pre-defined theorem-like constructs are **theorem**, **conjecture**, **proposition**, **lemma** and **corollary**. The pre-defined definition-like constructs are **example** and **definition**. You can add your own constructs using the *amsthm* interface [3]. The styles used in the `\theoremstyle` command are **acmplain** and **acmdefinition**.

Another construct is **proof**, for example,

Proof. Suppose on the contrary there exists a real number L such that

$$\lim_{x\to\infty} \frac{f(x)}{g(x)} = L.$$

Then

$$l = \lim_{x\to c} f(x) = \lim_{x\to c} \left[gx \cdot \frac{f(x)}{g(x)}\right] = \lim_{x\to c} g(x) \cdot \lim_{x\to c} \frac{f(x)}{g(x)} = 0 \cdot L = 0,$$

which contradicts our assumption that $l \neq 0$. □

5 CONCLUSIONS

This paragraph will end the body of this sample document. Remember that you might still have Acknowledgments or Appendices; brief samples of these follow. There is still the Bibliography to deal with; and we will make a disclaimer about that here: with the exception of the reference to the LaTeX book, the citations in this paper are to articles which have nothing to do with the present subject and are used as examples only.

A HEADINGS IN APPENDICES

The rules about hierarchical headings discussed above for the body of the article are different in the appendices. In the **appendix** environment, the command **section** is used to indicate the start of each Appendix, with alphabetic order designation (i.e., the first is A, the second B, etc.) and a title (if you include one). So, if you need hierarchical structure *within* an Appendix, start with **subsection** as the highest level. Here is an outline of the body of this document in Appendix-appropriate form:

A.1 Introduction

A.2 The Body of the Paper

A.2.1 Type Changes and Special Characters.

A.2.2 Math Equations.

Inline (In-text) Equations.

Display Equations.

A.2.3 Citations.

A.2.4 Tables.

A.2.5 Figures.

A.2.6 Theorem-like Constructs.

A Caveat for the TeX Expert.

A.3 Conclusions

A.4 References

Generated by bibtex from your `.bib` file. Run latex, then bibtex, then latex twice (to resolve references) to create the `.bbl` file. You can also use the supplied makefile.

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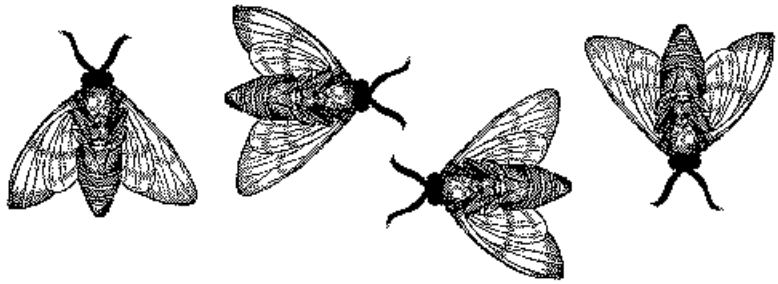

Figure 3: A sample black and white graphic that needs to span two columns of text.

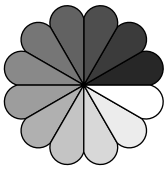

Figure 4: A sample black and white graphic that has been resized with the `includegraphics` command.

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