

# Title of the seminar paper

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**Tutor:** Some Researcher

## **Abstract**

*This LaTeX template is used for typesetting the seminar papers for the Seminar in Computer Science.*

*KEYWORDS: keywords, separated by commas*

## **1 Introduction**

To be added.

## **2 Simple things first**

This section provides some simple examples of Latex mark-up. Section 2.1 emphasizes important points, and Section 2.2 provides examples of math formulas. Finally, Section 2.3 demonstrates lists.

### **2.1 Emphasizing text**

*Italics* is a good way to emphasize printed text. However, **boldface** looks better when converted to HTML.

Paragraphs are separated by an empty line in the Latex source code. Latex puts extra space between sentences, which you must suppress after a period that does not end a sentence, e.g. after this acronym.

Cross-references to figures (Figure 1), tables (Table 1), other sections (Section 2.2) are easy to create.

## 2.2 Mathematics

In the mathematics mode, you can use subscripts, such as  $K_{master}$  and superscripts like  $2^x$ . Longer formulas may be put on a separate line:

$$\emptyset \in \emptyset \Rightarrow E \neq mc^2.$$

You may also want to number the formulas like Equation (1) below.

$$C = E_{K_{public}}(P) = P^e. \quad P = D_{K_{private}}(C) = C^d. \quad (1)$$

Note that in above examples, the equations end the sentence. Therefore, a full stop is placed at the end of the equation “ $mc^2$ .” and “ $C^d$ .”.

## 2.3 Make a list

Lists can consist of either bullets or numbers on them.

- one item
- another item, which is an exceptionally long one for an item and consequently continues on the next line.

Lists can include several levels. Item 1 below contains another list.

1. the first item
  - (a) the first subitem
  - (b) the second subitem
2. the second item

Sometimes there is a need to define a few important concepts. For this purpose, descriptions can be useful.

Protocol	Year	RFC
TCP	1981	793
ISAKMP	1998	2408
Photuris	1999	2522

**Table 1.** A table with some protocols

**Fog computing** refers to something. When the definition or description is longer, this structure uses hanging indents in upcoming lines.

**Dew computing** is defined as something else

**Edge computing** is classified as yet something other

### 3 More complex stuff

This section provides examples of more complex structures.

#### 3.1 Data served on a table

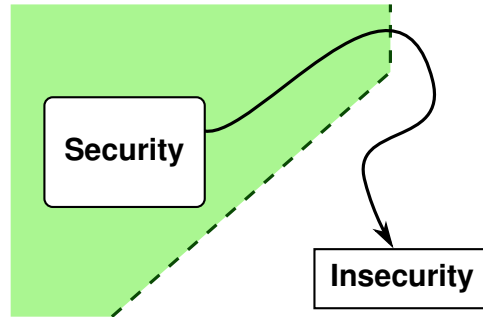
Table 1 presents some data in tabular form.

#### 3.2 Adding references

Do not forget to give pointers to the literature. If you are listing stuff related to your topic, you can provide several references once [1, 2, 5]. However, usually you should give only one, for example, the standard describing the stuff [4] and if you want to directly use someone else's words, use both quotation marks and refer to the source, for example, that “the developer does not need to know all about the framework to develop a working implementation” [6]. Remember also to mark references to your pictures if they are not created by your own mind!

When writing a literature review, you may sometimes find it convenient to use author names as subjects. In such case, you need to write the author's lastname manually into text. For example, Nikander [5] describes distributed software architecture that uses delegated access permissions. Vuorimaa et al. [7] discuss declarative languages in web application development. In the last citation (i.e., [7]), "et al." is used because there are three or more authors.

**NOTE!** Whenever available, please add the Digital Object Identifier



**Figure 1.** An embedded picture [Add citation here if needed]

(DOI) link into your references. This is illustrated in references [2, 7, 3]. See `cs-seminar.bib` for details. Currently, most journals and publisher provide a DOI for their articles. New books may also provide DOIs, as in [3], but older books, MSc and PhD theses may not. When citing theses available at university libraries (e.g., Aaltodoc), a permanent link may be available, as in [6].

If you plan to write with Latex regularly, create your own BibTeX database and use BibTeX to typeset the bibliographies automatically. In the long run, it will save you a lot of time and effort compared to compiling reference lists by hand.

### 3.3 Embedded pictures

Figure 1 is an embedded picture. The supported formats for pictures depend on the actual LaTeX command used. For instance, regular LaTeX supports pictures in EPS (Embedded PostScript) format, while pdfLaTeX supports PDF (Portable Document Format), PNG (Portable Network Graphics) and JPEG (Joint Photographic Experts Group). It is recommended to use either EPS or PDF for diagrams as well as for any picture which includes vector images.

## 4 Yet another section title

To be added.

## 5 Conclusion

To be added.

## References

- [1] Douglas E. Comer. *Internetworking with TCP/IP, Volume I*. Prentice-Hall Inc, 4th edition, 2000.
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- [3] Bruce M. Kapron, editor. *Logic, Automata, and Computational Complexity: The Works of Stephen A. Cook*, volume 43. Association for Computing Machinery, New York, NY, USA, 1 edition, 2023. doi: 10.1145/3588287.
- [4] D. Maughan, M. Schertler, M. Schneider, and J. Turner. Internet Security Association and Key Management Protocol (ISAKMP). RFC 2408, The Internet Engineering Task Force, November 1998. <http://ietf.org/rfc/rfc2408.txt>.
- [5] Pekka Nikander. *An Architecture for Authorization and Delegation in Distributed Object-Oriented Agent Systems*. PhD thesis, Helsinki University of Technology, March 1999.
- [6] Sanna Suoranta. An Object-Oriented Implementation of an Authentication Protocol. Master’s thesis, Helsinki University of Technology, November 1998. <http://urn.fi/URN:NBN:fi:aalto-2020120445344>.
- [7] Petri Vuorimaa, Markku Laine, Evgenia Litvinova, and Denis Shestakov. Leveraging declarative languages in web application development. *World Wide Web*, 19(4):519–543, 2016. doi: 10.1007/s11280-015-0339-z.