

# Digit String Recognition

*Lucas Steinmann, Leandro Piekarski, Hesham Hendy,  
Manuel Olk*

Praktikum Neuronale Netze  
Karlsruhe Institute of Technology, Germany

## Abstract

This is a layout specification and template definition for the paper of the IWSLT 2015 Conference. The format is essentially the one used for the IEEE ICASSP conferences.

## 1. Introduction

This template can be found on the conference website: <http://iwslt.org/>. Please use either a MS-Word® or a L<sup>A</sup>T<sub>E</sub>X format file when preparing your submission.

## 2. Page layout and style

Authors should observe the following rules for page layout. A highly recommended way to meet these requirements is to use a predefined template and check details against the corresponding example file.

### 2.1. First page

The first page should have the paper title, author(s), and affiliation(s) centered on the page across both columns. The remainder of the text must be in the two-column format, staying within the indicated image area.

#### 2.1.1. Paper Title

The paper title must be in boldface. All non-function words must be capitalized, and all other words in the title must be lower case. The paper title is centered across the top of the two columns on the first page as indicated above.

#### 2.1.2. Authors' Name(s)

The authors' name(s) and affiliation(s) appear centered below the paper title. If space permits, include a mailing address here. The templates indicate the area where the title and author information should go. These items need not be confined to the number of lines indicated; papers with multiple authors and affiliations may require two or more lines. Note that the submission version of technical papers *should be anonymized for review*.

#### 2.1.3. Abstract

Each paper must contain an abstract that appears at the beginning of the paper.

## 2.2. Basic layout features

- Proceedings will be printed in A4 format. The layout is designed so that files, when printed in US Letter format, include all material but margins are not symmetric. Although this is not an absolute requirement, if at all possible, **PLEASE TRY TO MAKE YOUR SUBMISSION IN A4 FORMAT.**
- Two columns are used except for the title part and possibly for large figures that need a full page width.
- Left margin is 20 mm.
- Column width is 80 mm.
- Spacing between columns is 10 mm.
- Top margin 25 mm (except first page 30 mm to title top).
- Text height (without headers and footers) is maximum 235 mm.
- Headers and footers must be left empty (they will be added for printing).
- Check indentations and spacings by comparing to this example file (in pdf format).

### 2.2.1. Headings

Section headings are centered in boldface with the first word capitalized and the rest of the heading in lower case. Sub-headings appear like major headings, except they start at the left margin in the column. Sub-sub-headings appear like sub-headings, except they are in italics and not boldface. See the examples given in this file. No more than 3 levels of headings should be used.

Table 1: *This is an example of a table.*

ratio	decibels
1/1	0
2/1	$\approx 6$
3.16	10
10/1	20
1/10	-20

### 2.3. Text font

Times or Times Roman font is used for the main text. Recommended font size is 9 points which is also the minimum allowed size. Other font types may be used if needed for special purposes. While making the final PostScript file, remember to include all fonts!

L<sup>A</sup>T<sub>E</sub>X users: DO NOT USE Computer Modern FONT FOR TEXT (Times is specified in the style file). If possible, make the final document using POSTSCRIPT FONTS. This is necessary given that, for example, equations with non-ps Computer Modern are very hard to read on screen.

### 2.4. Figures

All figures must be centered on the column (or page, if the figure spans both columns). Figure captions should follow each figure and have the format given in Fig. 1.

Figures should preferably be line drawings. If they contain gray levels or colors, they should be checked to print well on a high-quality non-color laser printer.

### 2.5. Tables

An example of a table is shown as Table 1. Somewhat different styles are allowed according to the type and purpose of the table. The caption text may be above or below the table.

### 2.6. Equations

Equations should be placed on separate lines and numbered. Examples of equations are given below. Particularly,

$$x(t) = s(f_{\omega}(t)) \quad (1)$$

where  $f_{\omega}(t)$  is a special warping function

$$f_{\omega}(t) = \frac{1}{2\pi j} \oint_C \frac{\nu^{-1k} d\nu}{(1 - \beta\nu^{-1})(\nu^{-1} - \beta)} \quad (2)$$

A residue theorem states that

$$\oint_C F(z) dz = 2\pi j \sum_k \text{Res}[F(z), p_k] \quad (3)$$

Applying (3) to (1), it is straightforward to see that

$$1 + 1 = \pi \quad (4)$$

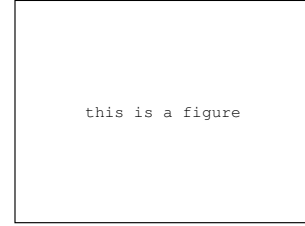


Figure 1: *Schematic diagram of speech production.*

Make sure to use `\eqref` when referring to equation numbers. Finally we have proven the secret theorem of all speech sciences (see equation (3) above). No more math is needed to show how useful the result is!

### 2.7. Hyperlinks

Hyperlinks can be included in your paper. Moreover, be aware that the paper submission procedure includes the option of specifying a hyperlink for additional information. This hyperlink will be included in the CD-ROM. Particularly pay attention to the possibility, from this single hyperlink, to have further links to information such as other related documents, sound or multimedia.

If you choose to use active hyperlinks in your paper, please make sure that they present no problems in printing to paper.

### 2.8. Page numbering

Final page numbers will be added later to the document electronically. *Please don't make any headers or footers!.*

### 2.9. References

The reference format is the standard for IEEE publications. References should be numbered in order of appearance, for example [1], [2], and [3].

## 3. Experiments

Please make sure to give all the necessary details regarding your experimental setting so as to ensure that your results could be reproduced by other teams.

## 4. Conclusions

This paper has described a novel approach for doing wonderful stuff such as ...

## 5. Acknowledgements

The IWSLT 2015 organizing committee would like to thank the organizing committees of INTERSPEECH 2004 for their help and for kindly providing the template files.

## 6. References

- [1] Smith, J. O. and Abel, J. S., "Bark and ERB Bilinear Transforms", IEEE Trans. Speech and Audio Proc., 7(6):697–708, 1999.
- [2] Lee, K.-F., Automatic Speech Recognition: The Development of the SPHINX SYSTEM, Kluwer Academic Publishers, Boston, 1989.
- [3] Rudnick, A. I., Polifroni, Thayer, E. H., and Brennan, R. A. "Interactive problem solving with speech", J. Acoust. Soc. Amer., Vol. 84, 1988, p S213(A).