

ILLINOIS DATA SCIENCE INITIATIVE

TECHNICAL REPORTS

LaTeX Template For an iDSI Technical Report

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Here is my very important research that I worked very hard on and because I am brilliant the work will you will read below will change your life in unimaginable ways. Well at least until you die, then it will change the lives of your posterity until the end of your family line.

<https://github.com/lcdm-uiuc>

INTRODUCTION

This template is designed to assist with creating a two-column research article or letter to submit to *iDSI*.

If you have a question while using this template on write_{La}TeX, please use the help menu ("?) on the top bar to search for help or ask us a question using the option in the lower right of the editor.

EXAMPLES OF ARTICLE COMPONENTS

The sections below show examples of different article components.

FIGURES AND TABLES

It is not necessary to place figures and tables at the back of the manuscript. Figures and tables should be sized as they are to appear in the final article. Do not include a separate list of figure captions and table titles.

Figures and Tables should be labelled and referenced in the standard way using the `\label{}` and `\ref{}` commands.

Sample Figure

Figure 1 shows an example figure.

Fig. 1. False-color image, where each pixel is assigned to one of seven reference spectra.

Sample Table

Table 1 shows an example table.

SAMPLE EQUATION

Let X_1, X_2, \dots, X_n be a sequence of independent and identically distributed random variables with $E[X_i] = \mu$ and $\text{Var}[X_i] = \sigma^2 < \infty$, and let

$$S_n = \frac{X_1 + X_2 + \dots + X_n}{n} = \frac{1}{n} \sum_i^n X_i \quad (1)$$

Table 1. Shape Functions for Quadratic Line Elements

local node	$\{N\}_m$	$\{\Phi_i\}_m$ ($i = x, y, z$)
$m = 1$	$L_1(2L_1 - 1)$	Φ_{i1}
$m = 2$	$L_2(2L_2 - 1)$	Φ_{i2}
$m = 3$	$L_3 = 4L_1L_2$	Φ_{i3}

denote their mean. Then as n approaches infinity, the random variables $\sqrt{n}(S_n - \mu)$ converge in distribution to a normal $\mathcal{N}(0, \sigma^2)$.

SAMPLE ALGORITHM

Algorithms can be included using the commands as shown in algorithm 1.

Algorithm 1. Euclid's algorithm

```

1: procedure EUCLID( $a, b$ )                                ▷ The g.c.d. of  $a$  and  $b$ 
2:    $r \leftarrow a \bmod b$ 
3:   while  $r \neq 0$  do                                       ▷ We have the answer if  $r$  is 0
4:      $a \leftarrow b$ 
5:      $b \leftarrow r$ 
6:      $r \leftarrow a \bmod b$ 
7:   return  $b$                                               ▷ The gcd is  $b$ 
```

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SUPPLEMENTAL DOCUMENTS

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REFERENCES

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