Elsevier LaTeX template*

Elsevier[1]

Radarweg 29, Amsterdam

Elsevier Inc[a,b], Global Customer Service[b,]*

[a]1600 John F Kennedy Boulevard, Philadelphia
[b]360 Park Avenue South, New York

Abstract

This template helps you to create a properly formatted LaTeX manuscript.

Keywords: `elsarticle.cls`, LaTeX, Elsevier, template

2010 MSC: 00-01, 99-00

1. Introduction

Artificial neural works which heavily inspired by biology and psychology have been widely used to solve various practical engineering problems in such areas as pattern recognition, nonlinear regression, data mining, clustering and prediction. The design of neural network consists of three basic parts, neural network architecture, learning rules, and training techniques.

The inputs of the neural network is consist of four parts: in-plane loading N_x, N_y, and N_{xy}, design parameters of laminate, two distinct fiber orientation angle θ_1 and θ_2, ply thickness t, total number of plies N; five engineering constants of composite materials, E_1, E_2, ; five strength parameters of a unidirectional lamina. There are two outputs in the neural network, safety factors for MS theory and Tsai-Wu theory, respectively.

*Fully documented templates are available in the elsarticle package on CTAN.

*Corresponding author
Email address: `support@elsevier.com` (Global Customer Service)
URL: `www.elsevier.com` (Elsevier Inc)

[1]Since 1880.

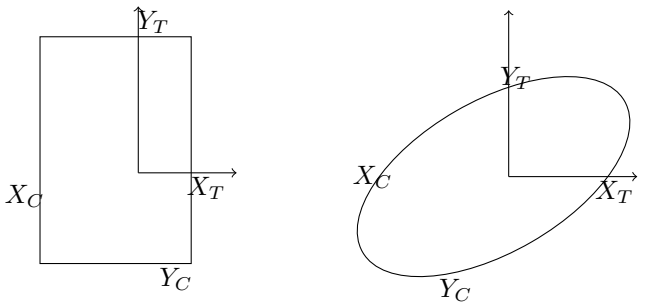

Figure 1: Schematic failure surfaces for maximum stress and quadratic failure criteria

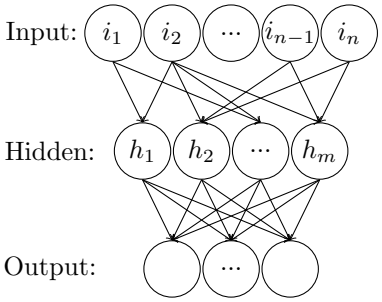

Figure 2: Neural Network Model

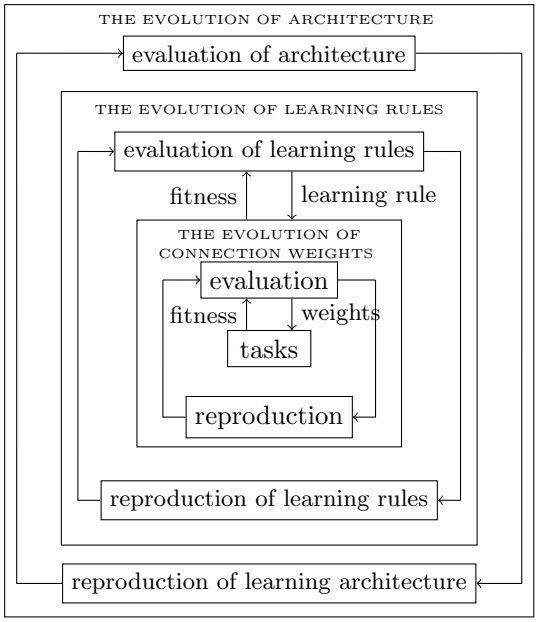

Figure 3: Genetic algorithm and artificial neural network

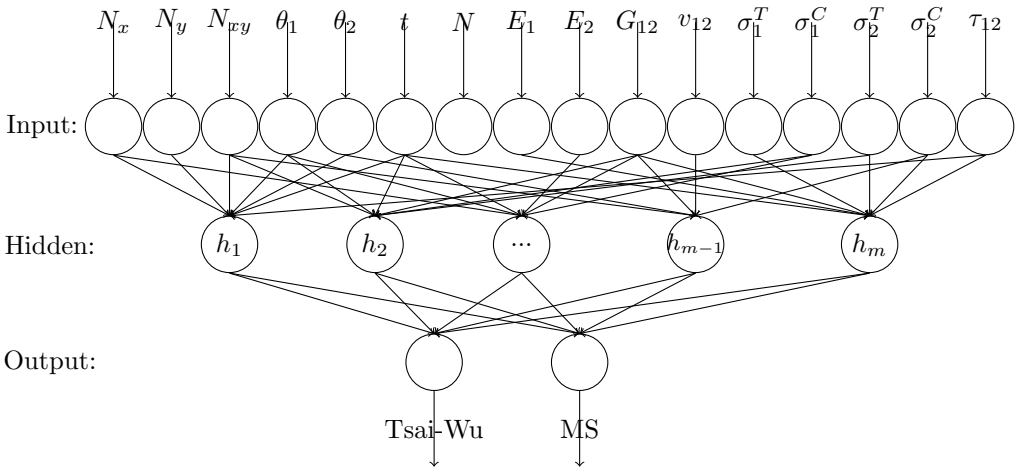

Figure 4: Neural Network Model

$+\theta$
θ
$\cdots$
$\text{-}\theta$
$+\theta$

Figure 5: Model for Angle ply laminate

2. The Elsevier article class

Installation. If the document class *elsarticle* is not available on your computer, you can download and install the system package *texlive-publishers* (Linux) or install the LaTeX package *elsarticle* using the package manager of your TeX installation, which is typically TeX Live or MikTeX.

Usage. Once the package is properly installed, you can use the document class *elsarticle* to create a manuscript. Please make sure that your manuscript follows the guidelines in the Guide for Authors of the relevant journal. It is not necessary to typeset your manuscript in exactly the same way as an article, unless you are submitting to a camera-ready copy (CRC) journal.

Functionality. The Elsevier article class is based on the standard article class and supports almost all of the functionality of that class. In addition, it features commands and options to format the

- document style
- baselineskip
- front matter
- keywords and MSC codes
- theorems, definitions and proofs
- lables of enumerations
- citation style and labeling.

3. Front matter

The author names and affiliations could be formatted in two ways:

(1) Group the authors per affiliation.

(2) Use footnotes to indicate the affiliations.

See the front matter of this document for examples. You are recommended to conform your choice to the journal you are submitting to.

4. Bibliography styles

There are various bibliography styles available. You can select the style of your choice in the preamble of this document. These styles are Elsevier styles based on standard styles like Harvard and Vancouver. Please use BibTeX to generate your bibliography and include DOIs whenever available.

Here are two sample references: [2, 1].

References

References

[1] P.A.M. Dirac. The lorentz transformation and absolute time. *Physica*, 19(1-–12):888–896, 1953.

[2] R.P Feynman and F.L Vernon Jr. The theory of a general quantum system interacting with a linear dissipative system. *Annals of Physics*, 24:118–173, 1963.