

# Redes neuronales y sus aplicaciones recientes

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**Resumen** Una de las tendencias ultimamente son las redes neuronales. En este documento se muestran conceptos claves sobre esta tecnica y una significativa variedad de ejemplos sobre aplicaciones recientes de la misma.

**Keywords:** Redes neuronales · Inteligencia artificial · Aprendizaje automatico · Aprendizaje profundo · Neural networks · Artificial intelligence · Machine learning · Deep learning · AI · ML · NN · DL

## 1. Introduccion

## 2. Definiciones y conceptos

### 2.1. Que es una red neuronal?

### 2.2. Tipos de Redes neuronales

### 2.3. AI vs ML vs NN vs DL

## 3. Conocimiento

### 3.1. Como aprenden estas redes?

Propagacion hacia atras

### 3.2. Representa como aprendemos los humanos?

## 4. Aplicaciones

### 4.1. Ejemplo1

### 4.2. Ejemplo2

### 4.3. Ejemplo3

### 4.4. Ejemplo4

### 4.5. Ejemplo5

## 5. Conclusion

## 6. Referencias maybe

## 7. por si acaso

### 7.1. A Subsection Sample

Please note that the first paragraph of a section or subsection is not indented. The first paragraph that follows a table, figure, equation etc. does not need an indent, either.

Subsequent paragraphs, however, are indented.

**Sample Heading (Third Level)** Only two levels of headings should be numbered. Lower level headings remain unnumbered; they are formatted as run-in headings.

*Sample Heading (Fourth Level)* The contribution should contain no more than four levels of headings. Table 1 gives a summary of all heading levels.

**Cuadro 1.** Table captions should be placed above the tables.

Heading level	Example	Font size and style
Title (centered)	<b>Lecture Notes</b>	14 point, bold
1st-level heading	<b>1 Introduction</b>	12 point, bold
2nd-level heading	<b>2.1 Printing Area</b>	10 point, bold
3rd-level heading	<b>Run-in Heading in Bold.</b> Text follows	10 point, bold
4th-level heading	<i>Lowest Level Heading.</i> Text follows	10 point, italic

**Theorem 1.** *This is a sample theorem. The run-in heading is set in bold, while the following text appears in italics. Definitions, lemmas, propositions, and corollaries are styled the same way.*

**Figura 1.** A figure caption is always placed below the illustration. Please note that short captions are centered, while long ones are justified by the macro package automatically.

*Demostración.* Proofs, examples, and remarks have the initial word in italics, while the following text appears in normal font.

For citations of references, we prefer the use of square brackets and consecutive numbers. Citations using labels or the author/year convention are also acceptable. The following bibliography provides a sample reference list with entries for journal articles [1], an LNCS chapter [2], a book [3], proceedings without editors [4], and a homepage [5]. Multiple citations are grouped [1,2,3], [1,3,4,5].

## Referencias

1. Author, F.: Article title. *Journal* **2**(5), 99–110 (2016)
2. Author, F., Author, S.: Title of a proceedings paper. In: Editor, F., Editor, S. (eds.) *CONFERENCE 2016, LNCS*, vol. 9999, pp. 1–13. Springer, Heidelberg (2016). <https://doi.org/10.1007/1234567890>
3. Author, F., Author, S., Author, T.: Book title. 2nd edn. Publisher, Location (1999)
4. Author, A.-B.: Contribution title. In: 9th International Proceedings on Proceedings, pp. 1–2. Publisher, Location (2010)
5. LNCS Homepage, <http://www.springer.com/lncs>. Last accessed 4 Oct 2017