

# Preface: the passion to teach

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*“Education is the most powerful weapon which you can use to change the world.”*

Nelson Mandela

Those who know me, know that something that has always motivated me, is to contribute by being the proverbial spark that lights the fire and awakens minds, in order to be prepared for the changes that our society faces, in the wake of the impact of technologies such as artificial intelligence in general and Deep Learning in particular.

I've always been interested in next-generation technology and its impact, and that's why artificial intelligence and its relationship with technologies such as Cloud Computing, Big Data or supercomputing (high performance computing) have caught my interest. These are areas in which I have been researching and teaching for 30 years.

Undoubtedly, technological advances in Artificial Intelligence, along with the other aforementioned technologies, are already here and allow us to build a society that improves people's lives. On the other hand, it is also true that in the near future these technologies will present other uncertainties.

I am however convinced , that together, as a society, we can find solutions to new problems we come across, that are brought about by these new technologies. For this reason, it is key that each and every one of us ~~who~~ working in the world of technology has a better understanding of these new

topics that are revolutionizing IT, in order that we can use them correctly and also be able to explain them to society.

This book is an English translation of the recently published book “*Deep Learning - Introducció práctica con Keras*”<sup>1</sup> that I wrote during the free time that my academic and research activity allowed me.

The book was initially designed to support my classes at the *Facultat d'Informàtica de Barcelona*, the faculty of Computer Science of the *Universitat Politècnica de Catalunya – Barcelona Tech* (UPC).

And as I have done with all the books in the collection WATCH THIS SPACE, I have openly published all its content on my personal website <https://www.JordiTorres.org/DeepLearning>

I'm excited to share it with all my students and with the entire IT community interested in having a first contact with this technology and help them to start on their own in the programming of Deep Learning. I hope this introductory book will help the reader interested in starting their adventure in this very interesting field. If the reader finds the content useful and prefers to opt for a paper copy or eBook copy, it can be purchased on *Amazon*.

As the title suggests, this book is only intended to be a practical introduction to Deep Learning, currently one of the most active areas in the field of Artificial Intelligence. It is not meant as an exhaustive treatise on the subject. This book is aimed at the reader who has knowledge in programming but has not yet had the opportunity to start these new key concepts in computing, and wants to discover some of the possibilities and more cutting-edge aspects of this technology.

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<sup>1</sup> Jordi Torres, "Deep Learning - Introducció práctica con Keras". WATCH THIS SPACE collection – Barcelona. Book 4. Language: Spanish ISBN 978-1-983-12981-0 June 2018. Freely available online: <http://JordiTorres.Barcelona/deeplearning/>

I advise you that the book will be an invitation to use your computer keyboard while you are learning: we call it "to learn by doing", and from my experience as a professor at the UPC, it is an approach that works very well with engineers that want to take a quick look at a new technology.

For this reason, the book will have an eminently practical orientation. Therefore the theoretical-mathematical part will be reduced as much as possible, although it is strictly necessary to present some theoretical details to offer a solid knowledge to the reader. This means that the pages will be interspersed with theoretical and practical knowledge, complementary to the learning process.

Before finishing this preface, let me say thanks for reading this book! This fact alone makes me happy and justifies my effort in writing it. Those who know me well, know that teaching (and education in general) is one of my passions and keeps me energized and motivated.

As my dear mother would sometimes reminds me, when I was young I used to say that when I grew up I wanted to teach, to be a teacher. Well, here I am, my dream came true!

Jordi Torres i Viñals. July 15, 2018.