



Ricardo Moya García, Ph.D

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I am Ricardo Moya, PhD in Science and Technology of Computing by UPM university. My job experience is focused on Artificial Intelligence and Big Data, that are my biggest interest and vocation.

I have worked in innovation departments related to Smart Cities and IoT, as a researcher in the areas of Recommendation Systems and (Deep) Machine Learning and as a Big Data Engineer in Devo (former Logtrust, in its Startup phase), evolving to Project Manager and Project Director, leading important Big Data in Real Time projects for Telcos and Media (i managed teams of more than 20 people). At Devo I experienced great professional growth working hard and acquiring important responsibilities in the transition from Startup to successful Company in the market of Big Data in Real Time.

Currently work in Telefonica I+D (R&D) in the area of CDO (Chief Data Officer) as Data Scientist and Technical Leader in the development and productivization IA Solutions. I also work as a professor of Master in the University, teaching subjects and directing projects related to the field of Data Science and Big Data.

Since 2012 I write technical articles, tutorials and video tutorials related to software engineering and artificial intelligence on jarroba.com website of which I am a co-founder.

EDUCATION



Ph.D in Science and Technology of Computing for Smart Cities

Sep 2013 - Mar 2015

Universidad Politécnica de Madrid (UPM)

The PhD thesis was focused on the areas of **Machine Learning and Recommender Systems** and has been passed with **Cum laude**. The aim of PhD thesis was the designing of a visual and simple inference model that allow users infer by themselves the recommendations from their tastes.



MSc in Science and Technology of Computing

Oct 2011 - Jun 2013

Universidad Politécnica de Madrid (UPM)

Master in Research and Innovation mainly oriented in Software Engineering and Artificial Intelligence areas. The **average note was 9.43**, obtaining two enrollment of honor in the subject "Neural Networks and Applications" and in the "Final Project Master".



Technical Engineering in Computer Systems

Oct 2006 - Jun 2011

Universidad Politécnica de Madrid (UPM)

Degree obtained with an **average note of 7.65** and two enrollment of honor in the subjects of Robotics and Mechatronics.

EXPERIENCE



Technological Specialist in Data Science & Big Data fields

Sep 2017 - now

Telefonica I+D (CDO)

Data Scientist and Technical Leader in the development and productivization of internal use cases. My job is to design and implement PoCs and IA Solutions as well as lead (at a technical level) the work teams.

- **Tasks:** Analyze and design IA solutions, implement IA solutions, lead teams (at a technical level)
- **Technologies:** Python, Spark, Hadoop, SQL, Linux, AWS, Git
- **Knowledge:** Artificial Intelligence, (Deep) Machine Learning, Recommender Systems, Reinforcement Learning, Big Data, Agile Methodologies



Co-Founder & Executive Team Member

Jan 2019 - now

AI-Network Association

AI-Network is an Artificial Intelligence Professional Association and Think Tank, organized by a network of AI professionals, professors and researchers with the objective to promote and support the early adoption of IA in companies and Society. As a network, our AI professionals, professors, and researchers have the opportunity to participate in cutting-edge projects, contributing to build a better world with AI.

- **Tasks:** Management the training area (**AI-Education**), developing and coordinating the educational offer for different levels and study areas.



External Lecturer of Master in Data Science & Big Data

Apr 2018 - now

U-tad

As a Lecturer I teach subjects and direct Master projects related to the field of data science and Artificial Intelligence. I teach the following subjects:

- **Data Analysis Introduction:** (30 hours/course) Data Wrangling & Exploratory Data Analysis (EDA) with Pandas; a gentle introduction to data visualization with Matplotlib & Seaborn; Regression, Classification, Clustering & Dimensionality Reduction (PCA) with scikit-learn.
 - Courses: 2018-19, 2019-20, 2020-21
 - Link to Material: github.com/RicardoMoya/Data_Science_Introduction_With_Python
- **Deep | Machine Learning:** (30 hours/course) Main techniques of Machine Learning (Supervised & Unsupervised Learning) and Deep Learning (MLP, CNN, RNN) with scikit-learn & Keras
 - Courses: 2017-18, 2019-20
 - Link to Material: github.com/RicardoMoya/Deep_Machine_Learning_With_Python
- **Natural Language Processing:** (18 hours/course) Text normalization and classification, Sentimental Analysis and Topic Modeling with NLTK, spaCy, Gensim and scikit-learn libraries.
 - Courses: 2017-18, 2018-19, 2019-20, 2020-21
 - Link to Material: github.com/RicardoMoya/NLP_with_Python
- **Recommender Systems:** (12 hours/course) Collaborative Filtering (KNN & Matrix Factorization Techniques), Content Based Filtering (LDA, LSI), Demographic Filtering (Clustering Techniques) and Hybrid filtering.
 - Courses: 2019-20, 2020-21
 - Link to Material: github.com/RicardoMoya/Recommender_Systems_-Python-
- **Reinforcement Learning:** (9 hours/course) Reinforcement learning Lifecycle, Elements and Terminology in RL, Explore vs Exploit, Q-Function: State-Action Value Function, Q-Table, Multi-armed Bandit, Algorithms: Q-Learning, SARSA Learning and Deep Q-Learning.
 - Courses: 2019-20, 2020-21
 - Link to Material: github.com/RicardoMoya/Reinforcement_Learning_with_Python
- **Unsupervised Learning Introduction:** (6 hours/course) Clustering: K-Means, Gaussian Mixture Models, Hierarchical clustering (Dendrograms), DBSCAN, K-Modes. Dimensionality reduction: PCA and LDA.
 - Course 2019-20
- **Introduction to Python:** (30 hours/course) A Gentle Introduction to Python programming language.
 - Courses: 2017-18, 2018-19
- **Introduction to R:** (30 hours/course) A Gentle Introduction to R programming language.
 - Course 2018-19



External Lecturer of Master in Data Science and Business Analytics for Professionals

May 2020 - now

IMF Business School

As a Lecturer I teach subjects related to the field of Artificial Intelligence. I teach the following subjects:

- **Artificial intelligence for business:** (30 hours/course) Online content author and Lecturer. Introduction to artificial intelligence, Techniques and applications for decision making (Expert systems, machine learning, combinatorial optimization), Reinforcement learning and applications, Techniques and applications of natural language processing (NLP) and Recommendation systems and applications
 - Courses: 2020-21
- **Analytical applications in Telco sector:** (8 hours/course)
 - Courses: 2019-20, 2020-21



Big Data Project Director

Oct 2016 - Sep 2017

Devo (former Logtrust)

1 Year

As Projects Director, I lead various Big Data projects (including transformation projects) for telcos and media. My main tasks are: teams, tasks and meetings management, requirements gathering, solving problems, research and learning the domain of telcos and media; and divulgation of knowledge.

- **Tasks:** Management: Teams, Tasks and Meetings, Requirements Gathering, Analysis, Problems Resolution, Research and Learning, Training, Presentations
- **Technologies:** PowerBI
- **Knowledge:** Logtrust, Telcos, Media, Business Intelligence, Big Data



Big Data Project Manager

Nov 2015 - Oct 2016

Devo (former Logtrust)

11 Months

As a project manager, I have managed Big Data projects for telcos and media, extracting knowledge from large amounts of data. The main tasks were: requirements gathering, solving problems, data analysis, dashboards design for information representation and task management; and my developing team.

- **Tasks:** Management: Teams and Tasks, Requirements Gathering, Analysis, Problems Resolution, Training
- **Technologies:** Python, Linux, Git, PowerBI
- **Knowledge:** Logtrust, Telcos, Media, Business Intelligence, Exploratory Data Analysis, Big Data



Big Data Engineer

Devo (former Logtrust)

Abr 2015 - Oct 2016

1 Year, 6 Months

As a Big Data engineer, i have worked in the development and operation of Logtrust, specializing in projects for Telcos and Media. The main tasks were the optimization of ETL algorithms and development of dashboards to represent the information.

- **Tasks:** *Development, Training*
- **Technologies:** *Python, Java, Javascript, Linux, Git*
- **Knowledge:** *Logtrust, Exploratory Data Analysis, Big Data, ETL*



Research Scientist in Machine Learning & Big Data

The App Date

Nov 2014 - Feb 2015

4 Months

Job, orientated to processing and managing large amounts of data (Big Data), obtained with "scraping techniques" through the Internet and "Tor network".

- **Tasks:** *Development, Design*
- **Technologies:** *Python, Java, Django, MongoDB, PostgreSQL, Elasticsearch, Linux, Git*
- **Knowledge:** *Machine Learning, Recommender Systems, Scraping, Big Data*



Recommendation Systems and IA expert

Gigigo Group

Sep 2013 - Sep 2014

1 Year, 1 Month

Desing and development of Recommender System of TwentyOne App and development the backend of Whatsred App. TwentyOne recommended content of social networks: Facebook, Twitter and Instagram, based on the tastes that are obtained from the user's behavior in the app.

- **Tasks:** *Development, Design*
- **Technologies:** *Java, PHP, MongoDB, Spring, Silex, Rest Services, Linux, Vagrant, Git*
- **Knowledge:** *Recommender Systems*



Research Assistant in Machine Learning

Universidad Politécnica de Madrid

Oct 2012 - Jul 2013

10 Months

Researcher assistant in "Intelligent Systems for Social and Virtual Environments" UPM university research group. I worked to improve the Recommender Systems based in collaborative filtering, using matrix factorization techniques and other techniques like Machine Learning, Fuzzy Logic and Natural Computing.

- **Tasks:** *Research*
- **Technologies:** *Java, Python, Matlab, MySql, Git*
- **Knowledge:** *Machine Learning, Recommender Systems*



Research Engineer (Scholar)

Ericsson España

Oct 2011 - Jul 2012

10 Months

Job developed in Ericsson Spain innovation department, oriented to finding M2M and IoT (Internet of Things) solutions in the context of Smart Cities. My task was to proposing and developing different prototypes for M2M solutions.

- **Tasks:** *Development, Design PoCs*
- **Technologies:** *Java, C, MySql, Android, Arduino*
- **Knowledge:** *IoT, Innovation Processes*

PERSONAL INITIATIVE

Jarroba.com

Co-Founder of jarroba.com with Ramón Invarato (University colleague). Web page of technical articles and tutorial related to software engineering. Frequently I write articles and do tutorials and video-tutorials on the following topics: Software Engineering, Artificial Intelligence, Languages Programming (especially Java and Python), Mobile Applications, Web Technologies, Operative Systems and Networks.

Machine Learning (in python), with examples

This book (which is being written) aims to explain the main techniques of Machine Learning with a very practical approach, implemented in python all the techniques that are presented. Additionally, these techniques will be implemented using libraries such as **scikit-learn**, **gensim**, **TensorFlow**, etc. Followed this development in: <https://jarroba.com/machine-learning-python-ejemplos>

Expert system of prediction football pools (1X2)

This expert system (programmed in Java) for predicting football pools (1X2) was created as a project for "Neural Networks and Applications" application subject in the MSC, obtaining by this expert system an enrollment of honor. This expert system was developed using different techniques of

Course Teacher: "Curso iOS desde cero"

(Aug 2012) 12-hour free course imparted at the Cathedral of Innovation in Madrid, for the aim of introducing people to developing applications for Apple mobile devices (iPhone). This course consist on introducing and management Apple's

"Machine Learning" and doing Scraping (33069 results) to obtain a historic soccer results for the 1st and 2nd Spanish division.

IDE (Xcode), teaching Objective-C programming language and the principal items of iOS applications (UIPickerView, UITableView, UICollectionView, etc).

COURSES



Master ThePowerMBA

The Power MBA

Ago 2020 - Now

100h aprox

Business Master focused on: Business Models, Business & Marketing Fundamentals, Strategy, Lean Startup, Entrepreneurship, Digital Marketing, Organizational Leadership, Accounting and Finance.



MSc Big Data Expert

Formación Hadoop

Oct 2016 - Aug 2017

150h

Online Master of 150h focused on professionals who want to learn the most important technologies of Big Data: Hadoop, HDFS, MapReduce, Spark, SolR, Hive, Kafka, etc.



Development of cloud services with HTML5, JS and Node.js

Mirada X

May 2015 - Aug 2015

50h

Course oriented to develop web applications with Node and Express (javascript).



MongoDB for Python Developers

MongoDB University

Jan 2015 - Feb 2015

35h

In this course was orientated to develop applications with Python, using "bottle framewok" (CRUD, Schema Design, Aggregation Framework, ...)



Scrum Manager

Scrum Manager

Oct 2014

The exam of this accreditation, certifies the knowledge to carry out a professional and solvent performance in projects working with Scrum Framework and Agile Methodologies.



Machine Learning

Coursera

Jun 2014 - Sep 2014

50h

Course imparted by Ph.D Andrew NG from Stanford University. In this course were explained the most used techniques of Machine Learning (Linear and Logistic Regression, Neural Networks, SVM, PCA, Recommender Systems, Anomaly Detection, Clustering, etc).



Agile & Lean

Mirada X

Oct 2013 - Nov 2013

50h

Course taught by Ph.D Javier Garzas of Rey Juan Carlos University. In this course are explained the Scrum framework to management agile software project.



MongoDB for DBAs

MongoDB University

Oct 2013 - Nov 2013

35h

This course was orientated to the management of MongoDB in production environments (CRUD, Performance, Replication, Scalability, Backups).

ABOUT ME

I am a sport resistance fan: Athletics, Cycling, Swimming and Triathlon especially; sport that I practiced in a "Semi-Professional" way. During this period, I won two individual Spanish Championships (GR20-24 in 2006 and U23 Long Distance Spanish Championships in 2008) as well as many championships in Spain (both individual category and team): Club League Championships, Madrid Championships and many podiums in triathlons and popular races like "San Silvestre Vallecana" and "Canillejas" in Promise category. I also ran Madrid's Marathon in 2010 and an IronMan in Barcelona (3.8km swim, 180km bike and 42,2Km running) considered one of the hardest races in the world, in 2009.

On the other hand, I am "Ciclo Indoor" monitor (by the FEDA) with more than three years of experience teaching.