

# Jorge Muñoz

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## Deep Learning Researcher/Engineer

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## Personal statement

As a dedicated Deep Learning Researcher and Engineer, my passion for Artificial Intelligence has driven my academic and professional pursuits. Graduating with first-class honors in Computer Science Engineering in 2006, I have continued to expand my knowledge and expertise in the field by obtaining a Ph.D. in Artificial Intelligence, an MBA and a degree in Mathematics.

Having collaborated with innovative startups across the globe (San Francisco, London, and Madrid among others). I have thrived in remote roles since 2015, adapting to diverse work environments and embracing cutting-edge technologies. Always learning and improving at the core of my work methodology. By staying up-to-date with the latest advancements in Deep Learning.

I am eager to bring my drive for excellence and continuous improvement to my next professional opportunity, contributing to the growth and success of a forward-thinking organization.

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## Education

October 2020 – July 2024 (estimated) Bachelor's Degree in **Mathematics**. UNED

October 2011 – November 2012 **MBA** Part-Time at EOI (Escuela de Organización Industrial) Management School. Funded by EOI (see awards and prizes below). International stay at UCF for a week.

October 2008 – October 2011 **Ph.D.** in **Computer Science and Artificial Intelligence**. Research Focus: Imitation learning in video games and the development of believable non-player characters

Published papers in international conferences on **computational intelligence** in games (CIG 2009, CIG 2010, UKCI 2010)

I won the botprize in 2010 (Turing Test for videogames) with a Conscious Machine cognitive architecture. An AAA videogame company was interested in the technology. I tried to create a company (Comaware) with this technology.

October 2007 – September 2008 **Master** in Computer Science and Information Technology. Specialization: **Artificial Intelligence**. University Carlos III of Madrid. Funded by the university. My thesis was about using Artificial Intelligence for step-by-step resolution of linear equations.

October 2001 – November 2006 **Computer Science Engineering** (5 years career). Specialization: Artificial Intelligence. I graduated with **first-class honors** and **the best bachelor's thesis**. University Carlos III of Madrid.

## Experience

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January 2020 –  
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**Freelance Deep Learning Engineer/Researcher.** Some examples of projects for different clients all over the world:

- **Reinforcement learning** for 3D virtual world generation in Unreal Engine and Houdini.
- Prototype for a service replacing real faces in images with **GAN**-generated fake faces
- Stock price prediction models using **wavelets**, **transformers**, and **sequence-to-sequence** models
- Aesthetics ranking for images.
- 3D cloud point semantic instance recognition.

*Keywords: Deep Learning, GANs, Reinforcement Learning, NLP, TensorFlow, 3D*

May 2018 –  
January 2020

**Founder at Serendeepia (Madrid)**

In Serendeepia Research we were a small group of experts in Machine Learning and **Deep Learning** who built custom solutions based on **state of the art research** in Artificial Intelligence.

I was **CEO** and **CTO** of the company. I created a remote-first culture with a well defined methodology to manage the projects: scrum and kanban boards. I picked our tools based on the best industry standards: Github with gitflow workflow for code, Kubernetes as cluster with Jenkins for continuous integration and Polyaxon as the platform to run experiments. I grew the company from 3 to 7 people, I managed successful projects for Fortune 500 companies and I lead the development of B2C products with the latest advancements in Deep Learning.

*Keywords: Deep Learning, CEO, CTO, TensorFlow, Scrum, Kubernetes, Jenkins, Polyaxon*

January 2016 –  
August 2018

**Remote Machine Learning Engineer/Researcher at Chute (San Francisco, CA, USA)** (Acquired in August 2018).

Solely responsible for processing social media data (Instagram, Twitter) in real-time for valuable insights. Relevant projects:

- Multilabel image classification with **TensorFlow** and **TensorFlow Serving** (previously image classification with Caffe) in Python
- Aesthetic model to score the beautifulness of the images in TensorFlow
- Model in TensorFlow to create a perceptual hash of images using local and semantic information of images
- Library in Python to train, test and deploy TensorFlow and Caffe models
- Spam filter and user topics detection with Word2Vec and kmeans in Go

*Keywords: TensorFlow, TensorFlow Serving, Python, Convolutional neural networks, Deep Learning*

June 2017 –  
April 2018

**Remote contractor as Machine Learning Researcher at Good AI Lab (San Jose, CA, USA).**

I was in charge to create **Deep Learning** research projects that run in ClusterOne for promoting and testing the platform. For example:

<https://medium.com/clusterone/personalized-medicine-redefining-cancer-treatment-with-deep-learning-f6c64a366fff>

*Keywords: Deep Learning Research, Machine Learning Platform*

- March 2013 – September 2017 **Android lead developer** in startups in **London** (Quipper, Shopcade) and as a **remote contractor** (Appgree).
- I lead the development of several Android mobile apps, most of them with more than a million downloads. I also trained the teams who took on the development of the apps when I left.
- Keywords: Team Lead, Android, Java, Kotlin*
- December 2010 – February 2013 **Entrepreneur period.** Startups and side projects with colleagues:
- Comaware: new technology based on **Machine Consciousness** to control virtual characters in video games and autonomous robots.
  - Howmaths: Artificial Intelligence applied to math problems. An A\* algorithms applied to solve math equation systems.
  - A video game engine for Android developed from scratch as a side project to use Artificial Intelligence to control the non-player characters and procedural content generation.
- Keywords: Entrepreneur, Marketing, Android, Video Games, Java, C++*
- September 2009 – January 2010 Visiting **research** at "**Center for Computer Games Research**" **IT University of Copenhagen** (Denmark), group of **Artificial Intelligence** in video games. I worked in a project of controlling characters in video games throw an eye tracking system and neural networks.
- Keywords: Recurrent Neural Networks, C++*
- October 2007 – September 2011 **Research staff** in training at **University Carlos III of Madrid**. I supervised several bachelor's thesis related with Artificial Intelligence and video games.
- I was rated by the students as an exceptional teacher (2008).
- Keywords: Neural Networks, Java, C++*
- December 2006 – August 2007 Software developer in Spain in several companies: GTD Ingeniería de Sistemas y Software; Secosol soluciones y domótica.

## Research & Publications

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Several **papers** in international conferences and **book chapters** (see <http://scholar.google.es/citations?hl=es&user=aHsYF-0AAAAJ> for more details).

Participation in scientific committee of international conferences (GECCO 2011, IADIS 2009).

List of publications publications:

- [https://www.researchgate.net/profile/Jorge\\_Munoz59](https://www.researchgate.net/profile/Jorge_Munoz59)
- <https://jorgemf.github.io/publications.html>

## Awards and prizes

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- 2011 Winner team of the **Human-Like Bot** contest.  
Winner project (**Comaware**) in the **national contest** for **university entrepreneurs** organized by EOI. Awarded with an MBA at EOI and a study trip to Silicon Valley.  
Winner team of the 5th contests of ideas for creating scientific and technological based companies of the University Carlos III of Madrid with the project **Comaware**. We won six months of incubation in the business incubator of University Carlos III of Madrid.
- 2010 Winner team of the **2K BotPrize 2010** international contest. The 2K BotPrize is an adaptation of the Turing test to video games. Monetary prize of a \$2,000 and a trip to 2K studios in Canberra, Australia.  
Winner of the Car Set-up Optimization competition (using TORCS as simulator). \$500 prize.
- 2008 Rated by the students as an exceptional teacher, congratulated by the University Carlos III of Madrid
- 2006 Graduated with **first-class honours** and **best bachelor's thesis**. 2006
- 2005 Scholarship for **outstanding academic achievement** in the course 2005-2006.
- 1999 and 1998 Finalist in the third and fourth editions of the national "**Spring Mathematics Contest**" held at the University Complutense of Madrid.

## Media Appearances

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- October 2010 "Killer Bots Are Getting Human". John Bohannon. Science. Vol 330. no. 6000. pp. 30-31. **Science**.  
<http://science.sciencemag.org/content/330/6000/30.2>
- October 2010 "The Awakening of Conscious Bots: Inside the Mind of the 2K BotPrize 2010 Winner", **aigamedev.com**.  
<http://aigamedev.com/open/articles/conscious-bot/>
- September 2010 "Unreal Tournament 2010: Narrowing the Gap between Human and Bot". Surfdaddy Orca. **h+ magazine**.  
<http://hplusmagazine.com/2010/09/10/unreal-tournament-2010-narrowing-gap-between-human-and-bot/>
- September 2010 "Un equipo español queda en primer lugar del 2K BotPrize 2010" ("A Spanish team win the 2K BotPrize 2010"). Lektu / Microsiervos. **lainformacion.com**  
[http://www.lainformacion.com/ciencia-y-tecnologia/tecnologia-general/un-equipo-espanol-queda-en-primer-lugar-del-2k-botprize-2010\\_eB2nYg5smd9hxIN2WnHWR1/](http://www.lainformacion.com/ciencia-y-tecnologia/tecnologia-general/un-equipo-espanol-queda-en-primer-lugar-del-2k-botprize-2010_eB2nYg5smd9hxIN2WnHWR1/)

## Talks

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March 2011      Guest speaker in the VI Days of Imaginática 2011. University of Sevilla. "*Conciencia Artificial en Videojuegos: diseñando máquinas más humanas*". ("Machine consciousness in video games: designing more human-like machines").

## Idioms

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Spanish      Native

English      Advanced (6.3/10 Duolingo Proficiency Exam, equivalent to 93/120 in TOEFL, 6.8/9 in IELTS or C1 in CEFR)