

## Contactar

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(LinkedIn)

## Aptitudes principales

Python

Deep Learning

Android Development

## Languages

Inglés (Professional Working)

Español (Native or Bilingual)

## Certifications

First Certificate in English (FCE)

## Publications

Exploiting synergies of mobile mapping sensors and deep learning for traffic sign recognition systems

Learning in mobility with Context4Learning: developing a context-aware mobile learning application

Sistema de reconocimiento de señales de tráfico para una SmartCity

Deep neural network for traffic sign recognition systems: An analysis of spatial transformers and stochastic optimisation methods

Evaluation of deep neural networks for traffic sign detection systems

# Álvaro Arcos García

AI Researcher and Software Engineer  
Sevilla Area, Spain

## Experiencia

### MCCM Innovations

Head of AI Research and Development

abril de 2018 - Present

Sevilla y alrededores, España

Responsible for the Artificial Intelligence business area of the company:

- Set up development standards and best practices for AI development.
- Design, build and maintain AI projects: OCR, chat bots, image classification, object detection, natural language processing, document classification...
- Deploy AI solutions to Amazon Web Services, Google Cloud and other private cloud providers.
- Design, build and maintain MCCM Innovations website infrastructure.
- Supporting and coaching other AI developers within the team.
- Development of RPAs using UiPath.

### Universidad de Sevilla

AI Research and Software Development Engineer

marzo de 2015 - marzo de 2018 (3 años 1 mes)

Sevilla y alrededores, España

Research and development in the following areas: mobile computing, ubiquitous computing, machine learning, deep learning, mobile e-learning, mobile e-health, computer vision. Next are some of the tasks done:

- Time series forecasting and anomaly detection in data streams applying deep learning and machine learning.
- Human Activity Recognition (HAR) by means of neural networks: CNNs, RNNs, LSTMs.
- Development of a traffic sign recognition system using deep learning, machine learning and image processing techniques, such as HOG, SVM, and CNNs. It has been carried out in collaboration with the University of Vigo. Multiple frameworks and libraries were used: Tensorflow, Keras, Torch, PyTorch, Caffe and OpenCV.

- Development of an Android app for sending notifications to students based on the context in which they are (walking, running, in a vehicle...) in order to offer them the most appropriate learning tasks adapted to such context. Google Analytics was used to study the behaviour of the students and improve the app. Google App Engine was utilized as backend and Google Cloud Messaging for sending notifications. It was connected to Moodle so that students were able to complete learning tasks on their mobile devices.

- Development of an Android app designed to monitor user activities, such as visited locations, physical activities performed, number of steps, sleep quality, heart rate, traveled distance, etc. It was integrated with Google Fit.

- Development of an Android app that gathers information about nearby Bluetooth devices, Wi-Fi networks, physical activity that the user is doing, recorded audio, and orientation of the mobile device. These elements were later used to study human interactions in working environments.

### Open Source

#### Android Developer

mayo de 2016 - junio de 2016 (2 meses)

Sevilla y alrededores, España

Development of an E-health Android app that aims to improve life quality of COPD patients.

Available at <https://play.google.com/store/apps/details?id=com.aarcosg.copdhelp>.

### SGC-Online, SL.

#### Full-Stack Web Developer and Android Developer

agosto de 2014 - febrero de 2015 (7 meses)

Córdoba y alrededores, España

Development and maintenance of several web applications with a high number of concurrent users, specifically:

- Real-time PHP web application to monitor and search for keywords on Twitter.

- PHP web application with a payment gateway (Paypal) where users can create, manage and share their CVs. Accessible at: <http://mi-curriculum-vitae.com/> and <http://my-cv-resume.com/>.

- PHP web application that helps both companies looking for employees and unemployed people seeking new job opportunities. It includes a Paypal

payment gateway. Accessible at <http://empresas.empleoytrabajo.org/> and <http://ofertas.empleoytrabajo.org/>.

- PHP web scrapers for more than 50 websites where job offers are published every day.
- PHP web application focused on the creation of viral questionnaires so that companies can promote their products and services. Accessible at: <http://testylish.com/>.
- PHP application for geolocating users through their IP.
- Android marketplace app where users can buy and sell second-hand products. Available at: <https://play.google.com/store/apps/details?id=com.mitrasteroapp.mitrastero>.
- MySQL database optimization.
- SEO optimization.
- Web analytics and users behaviour study.
- Mailing PHP tools.

The following technologies were used: PHP, Java, HTML, CSS, JavaScript, MySQL, Twitter APIs, Facebook APIs, Google APIs, PayPal API, MaxMind GeolIP API, Google Cloud Messaging and Google Analytics.

## Yobapp

Co-founder of Yobapp

enero de 2014 - agosto de 2014 (8 meses)

Sevilla y alrededores, España

Co-founder of Yobapp (<http://yobapp.com>), winner of Alfacamp startup acceleration contest (<http://www.alfacamp.com>). Yobapp is a mobile application maker where users can create and manage their mobile apps easily, without any programming nor design knowledge. Yobapp works as follows:

1. A JSON string which contains the configuration of the mobile app is created at the client side.
2. It is sent to the backend and processed by a Java application that converts it into Android native source code following a Model-Driven Development (MDD) methodology.
3. The Android source code is compiled and the app (.apk format) is sent to the user by email.

Main frameworks and technologies used: Eclipse M2T tools, Eclipse EcoreTools, EuGENia, HTML, CSS, JavaScript, PHP (Laravel), Java, Java build tools (Ant, Gradle), Android, Amazon Web Services (EC2, S3, RDS).

## Freelance

E-commerce web developer

junio de 2014 - julio de 2014 (2 meses)

Sevilla y alrededores, España

Web development of an e-commerce platform using Prestashop.

## Isotrol

Full-stack web developer

noviembre de 2013 - enero de 2014 (3 meses)

Sevilla y alrededores, España

Development of a module focused on gender-based violence within the Social Services web application of Seville City Council using the following technologies: HTML, PHP, AJAX, JavaScript and PostgreSQL.

## Prodetur S.A

Innovation Consulting

julio de 2013 - diciembre de 2013 (6 meses)

Sevilla y alrededores, España

Advise and provide advanced services to companies in the province of Seville, specifically:

- Interviews to collect data from different business areas: human resources, production, economy, finance, ICTs, environment and energy efficiency.
- Analysis of requirements and services to be provided.
- Design and roll-out of systems and services to improve business's competitiveness. In particular, development of web pages using Wordpress, implementation of collaborative work tools like Dropbox or Google Drive, and social networks management.
- Participation in diagnostics consultancy and innovation plans.
- Marketing and commercial actions.

## Isotrol

Full-stack web developer

octubre de 2010 - octubre de 2011 (1 año 1 mes)

Sevilla y alrededores, España

- Development and maintenance of the Social Services web application of Seville City Council and Alcalá de Guadaíra City Council using the following programming languages and technologies: HTML, CSS, JavaScript, PHP, PostgreSQL and Oracle 10g.
- Development of web services connected to the Citizen Registry of Seville using Java.

- Database and SQL optimization.
- Performance and scalability evaluation with Apache JMeter.
- Generation of surveys for Alcalá de Guadaíra City Council by means of LimeSurvey.
- Wink tool to create and edit video tutorials.

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## Educación

Universidad de Sevilla

PhD Student, Computer Science · (2016 - 2018)

Universidad de Sevilla

Grado en Ingeniería Informática - Ingeniería de Computadores, Ingeniería informática · (2015 - 2016)

Universidad de Sevilla

Máster en Ingeniería y Tecnología del Software, Ingeniería de software · (2012 - 2013)

Universidad de Sevilla

Ingeniería Técnica Informática de Sistemas, Ingeniería informática · (2007 - 2011)

Andrew's English School

First Certificate in English (B2) · (2014 - 2015)