

David Charte

Machine Learning Engineer

Granada, Spain

+34 697 494 169

david@deivi.ch

deivi.ch

fdavidcl

Skills

Software engineer with expertise in unsupervised and supervised deep learning, computer vision, classification problems and a strong mathematical foundation.

Speaks Spanish (native) · English (advanced) · French (intermediate) · Swedish (basic)

TECHNOLOGIES

ML Tensorflow · Keras · Pytorch · Scikit-Learn · Apache Spark · NVidia CUDA · Ray · Langchain

Languages Python · R · Ruby · C++ · C · Shell · SQL

Web HTML · JavaScript · CSS · RWD · React

Systems Linux/UNIX · Docker · NGINX

Tools Git · GitHub · \LaTeX · VSCode

Experience

2023–present **ML engineer**, Idoven

Deep learning focused on ECG signal data.

- Built Python libraries to provide a training platform and the core of an inference pipeline for ECG data.
- Used **Ray** to coordinate tasks in large clusters as well as single machines with the same codebase
- Empowered teammates with the tools and knowledge to overcome some weak points
- Worked hand-in-hand with infrastructure team to set up a GPU cluster for training

2020–present **Online course author and lecturer**, CampusMVP

Course on Data Science and Machine Learning using Python and R, with video-based and written lectures

- Recently extended with a module focused on Generative AI including Retrieval-Augmented Generation

2018–2022 **Doctoral researcher**, University of Granada

Lecturer training contract under government-funded competitive program ref. FPU17/04069.

- Main topic: *Finding alternative representations for data through deep learning techniques*
- Authored 11 JCR journal articles (8 in Q1) and 7 software packages
- Collaboration: **Hospital Univ. de Granada**, detection of COVID-19 in X-ray images (deep learning)
- Collaboration: **Repsol**, optimization of refinery processes (machine learning and autoencoders)
- Collaboration: **ArcelorMittal**, semantic segmentation of metallographic microstructures
- Directed bachelor's thesis: Automatic melody synthesis with Google Magenta
- Directed bachelor's thesis: Neural search for COVID-19 detection in chest X-rays
- Published a 5-part free online course (in Spanish) on linear algebra and dimensionality reduction

2018 **Researcher**, University of Granada

Contract with BBVA-funded project: Development of data preprocessing libraries in R

2016–2018 **Undergraduate researcher**, University of Granada

Analysis of unsupervised deep learning models, extraction of multi-view models for supervised learning

Education

2022 **PhD in Computer Science**, University of Granada: *cum laude*

Focus on data science and machine learning

2017–2018 **M.Sc. in Data Science and Computer Engineering**, University of Granada

2012–2017 **B.Sc. in Computer Science**, University of Granada: **9.40/10**

- Graduated with best academic record in class
- Co-founded LibreIM, a student community for Mathematics and Computer Science

2012–2017 **B.Sc. in Mathematics**, University of Granada: **9.04/10**

2017 **Intl. Summer School on Deep Learning**, Deusto University & Rovira i Virgili University

2014 **A practical approach to Data Science and Big Data**, Intl. University of Andalusia (UNIA)

2007–2012 **Project for detection/stimulus of mathematical talent (ESTALMAT)**, SAEM-Thales

Projects

2021 **Slicer (convolutional)**, Convolutional autoencoder model for complexity reduction

Tensorflow implementation of a convolutional autoencoder which learns from labels with an SVM loss.

2017 **Cometa**, The comprehensive multi-label data archive

Docker container that deploys an automatized web repository to prepare and host multi-label datasets.

2016 **Ruta**, Software for unsupervised deep architectures

R package for training unsupervised Deep Learning models.