Francisco Carrillo Pérez

Personal Data
23 years, spanish

Contact
(+34) 663 803 811

carrilloperezfrancisco@gmail.com

Párroco Medina Barea Nº6
Alfacar(Granada), Spain

Web Page and social networks
Personal Web
Github
Linkedin
Researchgate
Google Scholar

Languages
Spanish (Mothertongue),
English (Cambridge First Certificate- English FCE certificate)
Italian (PLIDA B2)

Programming Languages I've used more
♥ Python

Programming Languages I've used
C, C++, Bash/Zsh Scripting, Java, R

Deep Learning, Machine Learning, Data Mining
Tensorflow, Keras, Sckit-Learn, KNIME, Pandas, Matplotlib, Plotly

Other technologies
Ubuntu/Debian/Manjaro y other Linux, SQL, Latex

Summary

I'm a graduated student of **Computer Science** from the University of Granada. In the 2016/2017 I've spent one year at the Politecnico di Milano with a **Erasmus+** scholarship. My main interests are in the fields of Deep Learning, Machine Learning and Data Mining for the prediction and analysis of big amounts of data.I'm currently working in the field of e-Health products. Also, I've worked in the Bioinformatics field with my degree's thesis, where I've used CNNs to discriminate between brain images of healthy patients and patients with Alzheimer disease.

Proyects

2016–Nowadays **ToothTest** Universidad de Granada, Departamento de Óptica

Software oriented to the realization of experiments to the perception of individuals in different aspects in the field of color's scales in teeth and gum. The project could be checked **here**.
The software was used for the following **congress poster**:

- **TITLE:** Color difference thresholds for esthetic gingiva restoration: a pilot study
- **AUTHORS:** Razvan Ghinea, Maria del Mar Perez, Francisco Carrillo Perez, Ana Maria Ionescu, Juan de la Cruz Cardona, Luis Javier Herrera, Rade Paravina
- **CONGRESS:** SCAD 2016

2017–2017 **Defect Detection in Nanofibers by Image Classification** Politecnico di Milano, Milano (Italy)

This project concerns the detection of defective regions in SEM (Scanning Electron Microscope) images. These images have been acquired for monitoring the production of nanofibers. The images are contain in the following paper (Carrera2016). Scanning Elector Microscope image with anomalies in it. Also, we have the ground truth of the images, calculated also in (Carrera2016). So the different aims of the project were:

- Taking patches based in the GT images where the whole patch is anomalous, or all is normal.
- Training a classifier for predicting between anomalous or normal using a Deep Learning approach.
- Using this classifier to predict each patch of a new image.

Finally, Deep Convolutional Neural Networks were used. This is a project for the Image Analysis and Computer Vision course at Politecnico di Milano (2016/2017). The project along with the full documentation could be checked **here**

2017–2017 **Deep Learning for diagnosis based on medical images** Universidad de Granada

My degree's thesis. In this thesis, the aim was to use Deep Convolutional Neural Networks and 2D brain images for classifying between patients with Alzheimer disease and healthy patients.
Other works in the literature reported that DCNNs were good classifiers using 3D brain images but none of them used 2D images, proving that 2D images could be used also for classifying was the aim of the thesis.
The documentation is in Spanish. The documentation and the code could be checked here: **Thesis**

Experience

2017–2018 **mDurance Solutions S.L** Data Scientist

Internship at mDurance Solutions S.L. Working with data mining algorithms and signal processing techniques in order to predict physical pathologies. I've developed algorithms for discriminating between certain regions in a physical exercise that help us to obtain helpful information and detecting when the muscle's fatigue starts. Also, I've developed ML models for classifying between healthy and pathological patients.

2018–Nowadays **mDurance Solutions S.L** Data Scientist

Working as a data scientist for the company. Technologies I'm currently working with: Python, Django, Matplotlib, Pandas, Numpy, Scipy.

Publications

1. María M. Pérez, Razvan Ghinea, Luis Javier Herrera, F. Carrillo, Ana M. Ionescu, and Rade D. Paravina. Color difference thresholds for computer-simulated human gingiva. Journal of Esthetic and Restorative Dentistry
2. Francisco Carrillo-Perez, Ignacio Diaz-Reyes, Miguel Damas, Oresti Banos, Victor Manuel Soto-Hermoso, and Alejandro Molina-Molina. A novel automated algorithm for computing lumbar flexion test ratios enhancing athletes objective assessment of low back pain. 6th International Congress on Sport Sciences Research and Technology Support

Education

2013–2018 **Computer Science** Escuela Técnica Superior de Ingeniería Informática y Telecomunicaciones, Universidad de Granada

2016–2017 **Eramus+ Schoolarship** Politecnico di Milano, Milano (Italy)

Laurea Magistrale in Computer Science. Courses of interest: Data Mining and Text Mining, Image Analysis and Computer Vision, Machine Learning, Soft Computing, Hypermedia Web Applications

2011–2013 **High School**Technological Sciences IES Padre Manjón, Granada (Granada)

2006–2009 **Elemental grade in Music** Escuela de Música de Alfacar, Granada

Specialization Percusion

Extracurricular

2012-2017 **Club Deportivo Universidad de Granada Rugby**

Interests

Machine Learning; Data analysis; optimization of processes; algorithms; Web Services; Music ; Sports