

# JUAN FPJ ABASCAL

Freelancer | Researcher | Deep Learning | Imaging | Applied Maths

 Personal web/Portfolio  jabascal  LinkedIn  
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## EXPERIENCE

Freelancer (part-time)


**AMIDS Solutions**

 Sep 2022 – Ongoing  Villeurbanne, France

- Support companies, startups and research labs
- Design and manage R&D projects
- Deep learning (DL) tools for CV, image processing and NLP tasks
- Optimization, applied maths

Postdoc (part-time)

**INSA Lyon**

 May 2023 – Ongoing  Villeurbanne, France

- Implement robust deep iterative methods for medical imaging
- Contribute to open source [SPyRiT toolbox](#)

R & D Engineer

**Carestream Dental**

 Jul 2021 – Mar 2022  Paris, France

- Led to improved image quality with specific DL image restoration tools
- Reduced spurious artifact leveraging prior information

Marie Skłodowska-Curie fellow

**CREATIS**

 2016 – 2020  Lyon, France

- Improved hyper-spectral single-pixel imaging exploiting high-order CNN
- Developed a transfer deep learning (Sim2Real) approach for spectral CT with scarce data
- Validated spectral CT in comparison with synchrotron CT

Postdoc

**University Carlos III of Madrid (UC3M)**

 2009 – 2016  Madrid, Spain

- x6 to x10 accelerated acquisition/low-dose reduction for MR and CT applications
- Technical support to research line dedicated to compressed sensing

R & D Engineer

**Alten Ingenieria**

 2008 – 2009  Madrid, Spain

- Developed modelling/optimization tool for a competitive energy market

## MISSION STATEMENT

*“Committed to improve health and quality of life through innovative solutions.”*

## WHY ME?



### Love what I do

Passionate about the impact imaging and AI have in our life



### Customer focus

Regular communication. Friendly and attentive support



### Added value

A methodology that provides added value, reducing costs and increasing benefits



### Customer satisfaction

Results guarantee

## EDUCATION

Ph.D. in Medical Physics

**University College London (UCL)**

 2004 – 2007

M.Sc. in Applied Mathematics

**The University of Manchester**

 2002 – 2003

B.S. & M.Sc. in Theoretical Physics

**University Autonoma of Madrid**

 1997 – 2002

## PUBLIC REPOSITORIES

### NLP and LLMs

- [Chat app](#): Chat to any source of data with LangChain and OpenAI.

### CV

- [AI-surveillance](#): AI surveillance tool based on object detection and OpenCV.
- [COVID detection](#): Classification and experiment tracking.

### Deep Learning

- [SPyRiT toolbox](#): Deep iterative reconstruction methods.
- [ResPr-UNet](#): Novel architecture to exploit a prior image for 3D-denoising.

## SELECTED PUBLICATIONS

### Bloc

- Chat to any source of data with LangChain and OpenAI, *Medium*. [Link](#)

### Journal

- 3D completion network for hyperspectral images, *Optics Express*, 2021.
- A Sim2Real transfer approach in spectral CT, *IEEE Access*, 2020.

### Conferences

- A denoising residual U-Net network with image prior, *EUSIPCO*, 2021.
- Material decomposition in spectral CT: A transfer deep learning, *IEEE Biomed. Imag.*, 2020.

Publications [PDFs](#)

## OTHER FORMATION

### Deployment and MLOps

- Deploy Machine Learning Models in Production (MLOps), Coursera. [Link](#)
- TensorFlow: Data and Deployment Specialization, Coursera. [Link](#)

### NLP and LLMs

- Building LLM-Powered Applications, W&B. [Link](#)
- ChatGPT for Developers, DeepLearning.AI. [Link](#)
- LangChain: Chat with Your Data, DeepLearning.AI.
- Sequence Models (RNN, LSTM, Transformer), Coursera.

### Deep learning

- Deep Learning Specialization, Coursera. [Link](#)
- Deep Generative Models, Udemy. [Link](#)
- Generative Adversarial Networks (GANs) Specialization, Coursera. [Link](#)

### Machine learning

- Statistical Learning, Stanford University, edX. [Link](#)
- Probabilistic Graphical Models Specialization, Coursera. [Link](#)

## MANAGEMENT

### Events organizer

[CREATIS, France](#)

📅 2018 - 2020

Creator of “Coffee Machine Learning”

### Student supervision

[UC3M, CREATIS](#)

📅 2011 - 2020

3 Ph.D., 3 M.Sc. students

### Project proposal/management

[CREATIS](#)

📅 2016 - 2020

- PI of EU-H2020-MSCA [SUCCESS](#)
- PI of two [ESRF projects](#)
- Co-PI of ANR project [SALTO](#)

## SKILLS

Time management   Problem-solving  
Creativity   Teamwork   Hard-working

Python   TensorFlow   Pytorch  
Tensorboard, mlflow, W&B   fastAPI, Gradio  
Matlab   Git   Docker   Linux

## LANGUAGES

English  
Spanish  
French

