

Fernando Pozo

Bioinformatics & Machine Learning Engineer

PhD Candidate, CNIO

- fpozoca@gmail.com - fpozoc.com - +34 697300806 - Madrid, Spain
- **LinkedIn:** [linkedin.com/in/fernanpozo](https://www.linkedin.com/in/fernanpozo)
- **GitHub:** github.com/fpozoc
- **Google Scholar (~2 000 citations):** scholar.google.com/citations?user=3YLw4PQAAAAAJ&hl

Skills

- Programming:
 - **Python** (main language): Pytorch, Tensorflow, Keras, fast.ai, transformers (huggingface), NLTK, LightGBM, XGBoost, Scikit-learn, Pandas, NumPy, spaCy, matplotlib, seaborn.
 - **Bash**, R, Perl, SQL, PHP, HTML5, CSS3, JavaScript, LaTeX, Markdown.
- Technical: **Machine Learning** (Linear models, Ensemble trees, Boosting Machines, SVM, Unsupervised Learning, ANNs, CNNs, RNNs), **Deep Learning** (Computer Vision, NLP, Transformers), **Statistics** (Bayesian inference, Hypothesis Testing, Regression, Frequentist Statistics), **Containerization** (Docker, Singularity), **Version Control** (Git, DVC), **CI/CD** (GitHub Actions, Travis CI), **API integration** (FastAPI), **Workflow management** (Nextflow, Snakemake, Airflow), **Database management** (mySQL), **HPC** (Slurm), **Cloud** (AWS), **DevOps** (Setup, Linting, Typing, Documentation), **MLOps** (Weight and Biases, MLFlow, Hydra, PyTorch Lightning).
- Leadership: Public Speaking, Technical Writing, Project Management.
- Language Fluency: English, Spanish.

Professional Experience

Feb 2018 - Present

Bioinformatics and Machine Learning Engineer, CNIO, Madrid, Spain

Technical research: Bioinformatics, Machine Learning, NLP, Computer Vision, Data Science, Statistics. Fields: Genome annotation, Genomics, Immunotherapy, Chest-X-Ray analysis.

Publications and projects covered and detailed in my [Google Scholar](#) and [Github](#).

Feb 2020- Sep 2020

IT Consultant, START Barcelona, Remote

Web development, tech consulting, and AI Research.

Jul 2017 - Feb 2018

Data Analyst, Kantar Health, Madrid, Spain

Focused on giving support in market research projects development focuses on creation, analysis and optimization of digital strategies set up by the pharmaceutical industry at the European level. Main tasks included backend and frontend management (PHP,SQL,HTML5/CSS/JS), data visualization reports, server maintenance and mobile application development (PhoneGap).

University Teaching

Sep 2021 - Jul 2022

Machine Learning Professor, University Carlos III de Madrid, Madrid, Spain

Teaching the whole subject titled Machine Learning in Healthcare (6 ECTS) within the last course of B.Sc. in Data Science and Engineering.

Jul 2022 - Present

Subject Coordinator, Universidad Francisco de Vitoria, Madrid, Spain

Coordinator and lecturer of the subject titled Advanced Bioinformatics within the last course of B.Sc. in Biotechnology.

Sep 2019 - Jul 2022

Bioinformatics Lecturer, Universidad Francisco de Vitoria, Madrid, Spain

Teaching some lectures in the subject titled Advanced Bioinformatics within the last course of B.Sc. in Biotechnology.

Internships

Sep 2017 - Feb 2018

Bioinformatics and Machine Learning Internship, CNIO, Madrid, Spain.

Project: Machine Learning algorithm predicts the functional importance of potential Alternative Splicing.

Jan 2016 - Jul 2016

Bioinformatics and Data Science Internship, CNB, Madrid, Spain

Project: Bioinformatics analysis of data from whole genome sequencing.

Education

Sep 2018 - Nov 2022

PhD, Bioinformatics and AI, Universidad Autónoma de Madrid, Madrid, Spain

Project: Classification and interpretation of the biological importance of isoforms produced by alternative splicing using machine learning for the improvement of genome annotation and its clinical interpretation

Sep 2016 - Jul 2018

Master of Science, Bioinformatics for Health Sciences, Universidad Pompeu

Fabra, Barcelona, Spain

Composed by theoretical lessons in Bioinformatics, which is an interdisciplinary field which combines mathematical and computer sciences with biology and/or medicine, and a complete research Master Thesis in an External Center.

Sep 2012 - Jul 2016

Bachelor of Science, Biomedical Sciences, Universidad de Alcalá, Madrid, Spain

Strong foundations in biology, mathematics, chemistry, statistics, quantitative methods, genetics, cellular and structural biology, epidemiology and human health.

Certifications

Jun 2020 - Jul 2020

Deep Learning Professional Certificate, IBM

Nov 2019 - Feb 2020

Software Instructor, The Carpentries

Volunteering

Aug 2018 - Present

Researcher, International Society for Computational Biology

Sep 2018 - Jun 2022

Technical Leader, CNIO Student Association

Last projects

Aug 2017 - Present

TRIFID - Machine Learning Tool to Reliable Identification of Functional Isoform Data

Project source: gitlab.com/bu_cnio/trifid

Jan 2022 - Jul 2022

A system for the identification and interpretation of pulmonary pathologies from Chest X-rays images using Deep Learning

Project source: github.com/Rules99/Chest-X-Ray-with-Radiologist-AI

Jan 2022 - May 2022

An extremely user-friendly Chest X-Ray image classifier using PyTorch Lightning, Hydra and a custom logger with ML best practices

Project source: github.com/fpozoc/cxr-img-classifier

Honors & Awards

Nov 2018

1st prize in Big Data & Cancer Genomics Challenge, ONCOTHON

Project awarded: Integrated workflow to improve personalized treatments exploiting Cancer vulnerabilities.

Nov 2018

International Excellence Fellowship. CEI BioTic. University of Granada

References

- Michael Tress, PhD, Staff Scientist at CNIO - mtress@cnio.es
- Fatima Al-Sharour, PhD, Head of Bioinformatics Unit at CNIO - alsharour@cnio.es
- Marcos Cámara-Donoso, Machine Learning Engineer at Lifebit - marcos@lifebit.ai
- Isaac Filella Mercè, PhD, Postdoctoral Researcher at BSC - isaac.filella1@bsc.es
- Gabriel Piedrafita Fernández, PhD, Professor at UCM - gpiedraf@ucm.es