Antonio Verdone
Machine Learning Engineer

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ML Engineer and Data Scientist with 8 YoE in tech startups, healthcare, and consulting. Expert in Deep Learning, Python, Computer Vision and NLP. Increased radiology residents' pathology exposure by 135% in 2024, managed client relationships and led technical teams.

Experience

NYU Langone Health — New York, USA
Senior Machine Learning Engineer — *Feb 2022 - Present*

- Designed and implemented a pathology extraction system for radiology reports using GPT, pretraining and finetuning BERT models, including NYUTron, finetuning Llama 2/3 (LLMs) with LoRA, resulting in a 135% increase in important pathology exposure, improving the educational outcomes for residents
- Designed and implemented a pipeline to deploy an MRI glioma segmentation ML model to the PACS system using python, docker and mercure to give clinicians access through Visage (PACS vendor)
- Led a team of ML engineers and interns in the development of models for the Radiology department
- Created SRS, IRB, project goals, project proposals and project plans for various projects
- Successfully recruited a Research Engineer and an intern. Responsible of conducting the technical ML interviews of all profiles within the AI Program. Created a deep learning coding exercise in Pytorch (with Lightning) for the interview process of Research Scientists and Engineers

Leuko - Medical Imaging — Madrid, Spain
Machine Learning Engineer — *Jul 2020 - Aug 2021*

- Contributed to the signal processing and machine learning parts of the codebase of the proprietary device for non-invasive white cell monitoring (with data similar to capillaroscopy images)
- Trained a time series classification model to identify anomalous capillaries using XGBoost
- Prioritized new directions in the computer vision part of the codebase (in Julia, Python and AWS)

BD Capital - Real Estate — Madrid, Spain
Freelance Data Scientist — *Mar 2020 - Apr 2020*

- Developed an API for ETL on land registry data using Pandas, Selenium, Google Drive and Maps APIs
- Met with stakeholders to understand their business needs and translate them into a product plan

Tinámica — Madrid, Spain
Senior Data Scientist — *Jun 2019 - Feb 2020*

- Improved client's audit process using object detection (Faster R-CNN) of stock keeping units in Tensorflow and deployed in Google Cloud Functions and AI Platform
- Reduced 60% of false alarms in a video surveillance system and detected oil leaks, using deep learning (CNNs) and classic computer vision (background subtraction)
- Led a team of three data scientists managing deadlines, workload and enforcing best coding practices

- Supported project proposals providing technical guidance in machine learning and computer vision
- Conducted interviews to data scientist profiles and supported the creation of an interview process

WIREWAX - Interactive Video
London, UK

Computer Vision Scientist
Jan 2018 - Dec 2018

- Created a near-duplicate video retrieval system using bag of visual words and CNN features
- Segmented videos into parts using audio signal processing, structural similarity and image hashing
- Localization of suitable ad insertion points in videos using fade detection, black frames and audio
- Recognized cartoon characters in videos using Tensorflow

Accenture Digital - Advanced Analytics
Madrid, Spain

Data Scientist
Oct 2014 - Sep 2016

- Segmented customers using Kohonen's SOMs and hierarchical clustering to increase efficacy of marketing campaigns
- Contributed to a codebase that optimized HVAC energy consumption using model predictive control and ant colony optimization
- Performed data analysis and implemented machine learning algorithms in R to develop a deep understanding of customer needs

Nielsen
Madrid, Spain

Analysis Consultant: data cleaning, imputation of missing and wrong values
Apr 2014 - Jun 2014

Education

University of Edinburgh
Edinburgh, UK

MSc in Artificial Intelligence (Distinction)
2016 - 2017

- Dissertation: Tracking people and their arms in a robot surgery workcell using multiple RGB-D sensors and particle filtering
- Courses: Machine learning and pattern recognition, Deep learning, Reinforcement learning, Advanced computer vision, Natural language processing, Data mining and exploration, Computational cognitive neuroscience

Complutense University of Madrid
Madrid, Spain

Degree in Mathematics and Statistics
2009 - 2014

- Undergraduate Thesis: Artificial Neural Networks and implementation of handwritten digit recognition system using MNIST database and H2O processing engine in R

Skills

Programming languages

Proficient: Python (main language) **Advanced:** R, Matlab **Intermediate:** Julia

Other technologies

Python: Numpy, pandas, scikit-learn, opencv, pytorch, transformers (Hugging Face), wandb, MLflow, PIL, pydicom, nibabel, SQLAlchemy, mongoengine, pytest, scipy, spacy, fastapi, tensorflow, keras, pyocr. **Julia**. **R:** dplyr, ggplot2, data.table, h2o. **Matlab:** Robotics Toolbox. **AWS**: Amazon SageMaker, AWS Lambda, S3. **Google Cloud Platform**: AI Platform, Cloud Functions, Buckets. Git, Docker, SQL, MongoDB, LaTeX. **Azure**: Azure OpenAI

Languages: English (Full Professional Proficiency), bilingual in Spanish and Italian