NAHUEL PASSANO

Machine Learning Engineer | Acoustical Engineer

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📍 Argentina 🔗 Nahuel Passano

SUMMARY

I am a high-performing, intrinsically motivated individual with a strong passion for technology. I thrive in multi-disciplinary, multicultural teams, and am driven by challenges that significantly impact users.

SKILLS

Python: PyTorch, TensorFlow, Scikit-Learn, SQL, Pandas, Seaborn, Plotly, FastAPI, Poetry.

Technologies: AWS, Docker, Kubernetes, GitHub Actions.

EXPERIENCE

9/2023 – Present — **Ssr Machine Learning Engineer** — **EverythingALS**

- Presentation of scientific advancements to high-level executives, emphasizing skills in communication and specialized information management.
- Development of signal processing pipelines for the extraction of digital biomarkers from speech and measurements of pressure sensors, accelerometers and gyroscopes.
- Training of supervized models to predict subjective metrics of ALS patients.
- Design of a proof of concept on voice cloning for ALS patients using Eleven Labs, TortoiseTTS and RVC.

Tech Stack: `Scikit Learn  /  SciPy  /  FastAPI  /  Black  /  PyLint`

4/2023 – 10/2023 — **Ssr Machine Learning Engineer** — **MecanTronic**

- Technical leadership in an Audio Machine Learning project (Voice Cloning for Argentinian speakers).
- Design technical exam for the selection process, perform technical interviews
- Machine Learning projects lifecycle managment with MLFlow.
- Implementation of CI pipelines with GitHub Actions for automated testing.
- Cloud architect with AWS for Machine Learning projects.
- Containerization of Machine Learning applications using Docker.

Tech Stack: `PyTorch  /  AWS  /  Docker  /  ML Flow  /  GitHub Actions  /  Poetry`

2/2022 – 4/2023 — **Jr Machine Learning Engineer** — **MecanTronic**

- EDA for Object Detection and Instance Segmentation datasets.
- Reserch and application of Computer Vision models for object detection in drone imagery.
- Adaptation of libraries such as Detectron2 and Anomalib for instance segmentation and anomaly detection tasks in drone imagery.
- Full pipeline development of preprocessing, inference and postprocessing in Computer Vision projects.
- Training AI models on GPU cloud instances (AWS EC2, Paperspace).

Tech Stack: `TensorFlow  /  OpenCV  /  Pillow  /  Numpy  /  Seaborn`

3/2022 – Present — **Assistant professor: Digital Signal Processing** — **Universidad Nacional de Tres de Febrero**

- Python lessons oriented to DSP. Assigment review.

Tech Stack: `Python  /  DSP  /  LaTeX`

EDUCATION

8/2016 - Present — **Acoustical Engineering** — **Universidad Nacional de Tres de Febrero**

Engineering's degree specialized in acoustic measurements, NVH and DSP.

CERTIFICATES

Sequence Models	DeepLearning.ai	**MLOps concepts**	DataCamp
Convolutional Neural Networks	DeepLearning.ai	**Cloud Computing (AWS)**	CoderHouse
Data Analysis with Python	freeCodeCamp	**Docker for the absolute beginner**	KodeKloud

PROJECTS

DSP - Acoustics — **AIRA: Ambisonics Impulse Response Analyzer** — **GitHub Repository**

Innovative software for visualizing impulse responses from Ambisonics microphones, featuring an interactive interface that allows for detailed examination of sound reflections using 'hedgehog-type' graphs

Speech processing — **Mi Identidad Vocal** — **Interview**

Development of voice cloning software for the former national deputy Jorge Rivas. Through his sessions in the Chamber of Deputies, his voice was successfully reconstructed, restoring his vocal identity.

LANGUAGES

English - B2+, **Spanish** - Native