Nicolas Dejax

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About me

I'm currently searching for a position calling upon my skills in signal processing or algorithms. Working in an ethical and challenging area is important to me.

My passion to learn new technologies and methods allows me to adapt quickly to any new environment.

Therefore, feel free to contact me if you think you have a project fitting my interest. I would be happy to discuss it with you.

Language

French	NATIVE
English	PROFICIENT
Spanish	PROFICIENT

Skills

Python	★★★★
C/C++	★★★
Matlab	★★★
Typescript	★★
Javascript	★★

Employment

CLS (CELAD Subcontractor) **Feb 2021 – May 2022**

Engineer on Altimeter Radars
- Extraction of the instrumental altimeter parameters (Filter and PTR)
- Design & Implementation of a toolchain for the generation of netcdf products
- Study of the performance of conventional altimeter in hydrology (estimation of river height)

Technologies: **Linux, Python, Bash, NetCDF, Git**

Continental (CELAD Subcontractor) **Nov 2019 – Nov 2020**

Computer Vision R&D
- Study of the performance driver monitoring system: face detector, gaze and eyes measurements, drowsiness detection.
- Implementation of new algorithms in an existing software in **C++ / Qt**
- State of the art / Implementation / Comparison of various **deep learning models** (body pose models, head pose models, pedestrian detection models)

Technologies**: Windows, Python, C++, Visual Studio, Cmake, TensorFlow, OpenCV, Git**

Entrepreneur **Oct 2017 – Nov 2019**

Software Audio Engineer
Creation of a algorithm to extract the score from a recorded sound and integration in a web application.
- Creation of a **python** library and **C++** library
- Implementation of the algorithm on a **desktop app** (Python + PyQt)
- Implementation of the algorithm on a **REST API back-end** (Django + Apache)
- Implementation of the algorithm on a **fully front-end app** (Angular 7)
- Score format generated: MusicXML and MIDI

Technologies: **Linux, Python, C++, XML, Typescript, Javascript, Django, Celery, PyQt, Apache, Angular 7, HTML/CSS, SQL, Git**

CLS (Scalian Subcontractor) **Feb 2016 – Sept 2017**

Engineer on Altimeter Radars
- Implementation of an **iceberg detection** method
- Comparison of altimetry measurements on rivers using conventional altimeters and **SAR** (Delay/Doppler) altimeters.
- Recovering wind speed (Sigma0) using **GNSS** Reflectometry
- Validation of an algorithm to calculate the slope along track on ice measurements and provide a correction accordingly.

(All works detailed above include validation studies followed by the **writing of report** and/or **presentation** in English/French)
Technologies: **Linux, Python, Matlab, C, NetCDF**

Météo-France **Mar 2014 – Aug 2014 & Mar 2015 – Dec 2015**

R&D engineer on weather radars
- Programming a weather radar data simulator in **C++ / Qt**
- **Optimization** of Doppler velocity unfolding algorithm and radar frequencies
- Implementation of **Triple-PRT** Doppler filtering methods
- Participation at the American Meteorological Society (**AMS**) radar conference in Norman, OK, USA (poster presentation: poster link)

Technologies: **Linux, Python, C/C++, Qt**

Education

Paul Sabatier University

2014 Master – Signal Processing

Signal, Imaging and Applications
Signal/Audio/Video Processing

2013 Master - Electronic

Electronic of embedded systems and Telecommunication

Independent Learning

- Udemy: Machine Learning A-Z
- Udemy: Deep Learning A-Z
- Neural Network and Deep Learning

Interest

- Popularization of science
- Running, Badminton, Tennis, ...
- DIY / Renovation
- Reading
- Piano, Guitar, Music Theory