



Kaëlig Castor

DATA SCIENTIST

R&D ENGINEER

**MACHINE LEARNING, ACOUSTICS,
SIGNAL PROCESSING**



French citizenship, single, no kid, international mobility
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OBJECTIVE

With more than 20 years experience in academic and applied research, my objective is to contribute to business solutions by building challenging and innovative technical processes.

EDUCATION

- 2019 – 2020 **Post-Master degree in Data Science**
Telecom Paris, IP Paris
- 1997 – 2001 **PhD in Acoustics**
Université du Maine
- 1994 – 1997 **MSc in Applied Physics**
Université Paris-Saclay

AWARD

- 2015 **First price in Technological Innovation**
CGG « *Above and beyond* »

The new source signal design method called **CLEANSWEEP™** eliminates the harmonic noise in the vibroseismic source. The award honors the successful accomplishment in the project initialization, development and industrialization that generated US\$1.5M/year net margin (technical option sold +4% as an add-on, generalized as a standard to all seismic crews).

TECHNICAL SKILLS

- CODE** Python, Matlab, SQL/NoSQL, Java, Scala, R, C#, C/C++, HTML, JavaScript.
- ML** Scikit-Learn, Keras, SpaCy, TensorFlow, PyTorch.
- DEV.** Perforce, Git, Docker.
- CLOUD** AWS (S3, EC2, EMR), GCP.
- DATA** Hadoop, MapReduce, Kafka, Yarn, Spark, MySQL, PostgreSQL, Cassandra, Neo4j, MongoDB, Hbase.

SOFT SKILLS

- ▷ Complex problem solver using curiosity and creativity.
- ▷ Excellent planning skills, quick to learn new methods.
- ▷ Goal-oriented with proven collaboration and multicultural team experiences in international environments.
- ▷ Strategic, business-building approach to innovation.
- ▷ Excellent written and oral communication.

LANGUAGES French (native), English (fluent), Spanish (good), Portuguese (intermediate).

WORK EXPERIENCE

TECHNICAL PROJECT MANAGER

Sercel



Organisation and direction of a measurement campaign in the Mediterranean Sea to characterize the new marine acoustic source for seismic imaging called TPS (Tuned-Pulse Source).

DATA SCIENTIST

Praexo

2020 – 2021



- ▷ Recommender systems to list target investors for capital raising.
- ▷ Investor feedback synthesis and text classification.

SENIOR GEOPHYSICIST

Compagnie Générale de Géophysique

2007 – 2019



As part of the R&D Land Business Line, I contributed to innovative seismic imaging methods (e.g. simultaneous source deblending, compressed sensing) by optimizing big data acquisition and processing.

- ▷ Software development and embedded systems.
- ▷ Patents, scientific articles, oral presentations, international meetings.
- ▷ Industry-leading expertise in innovative vibroseismic source signal design.
- ▷ Competitive business solution for noise reduction in acoustic emission.
- ▷ Operational and technical startup supervision of seismic survey crews (usually a few tens US\$M) and large-scale field tests (0.5-2US\$M) for numerous major oil companies (Saudi Aramco, Shell, Qatar Petroleum, Total, ENI, Repsol, Apache, Khalda, PDO, OMV, Sonatrach, Petrobras, ...).
- ▷ Strong interaction with the clients. Technical expertise for increased sales.

RESEARCH ENGINEER

Commissariat à l'Énergie Atomique

2004 – 2006



- ▷ Numerical modeling of hydroacoustic wave propagation (CTBT).
- ▷ 3D parabolic-equation code-parallelisation on CEA supercomputer.
- ▷ Waveform analysis after propagation in ocean and atmosphere.
- ▷ Geophysical data processing for large scale experiments.

RESEARCH ASSISTANT

Scripps Institution of Oceanography, UCSD, USA

2001 – 2003



- ▷ Nonlinear effects in long range propagation, parametric interaction.
- ▷ Numerical modeling, small scale ultrasonic experiments.
- ▷ Equations of nonlinear acoustics and weak shock propagation.
- ▷ Nonlinear frequency-mode coupling in an acoustic waveguide.

GRADUATE STUDENT AND TEACHING ASSISTANT

Laboratoire d'Acoustique de l'Université du Maine

1997 – 2001



- ▷ Acoustical and electrical modeling of plasma loudspeakers.
- ▷ Laboratory instrumentation interfacing with HP VEE and LABVIEW.
- ▷ Electrical and acoustical measurements in anechoic chamber.
- ▷ Measurements of the gas flow and the acoustic particle velocity using Laser Doppler Anemometry.
- ▷ Teaching Acoustics, Vibrations, Electronics, Signal Processing.