Maxence Ferrari

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EDUCATION

CENTRALE LILLE
Graduate school of engineering
2014-2017 | Lille, Fr

CHAPTAL
Preparation for a competitive exam
2012-2014 | Paris, Fr

DIDEROT HIGH SCHOOL
2009-2012| Paris, Fr

SKILLS

PROGRAMMING
Main programming languages:
Python • Cython • C • C++ • Bash • Git • LaTeX
Main machine learning library used:
Pytorch • Tensorflow V1
Other seldom used languages:
Labview • Matlab • Mapple • Assembly • VHDL

3D CAD AND SIMULATOR
SolidWorks • Catia • Comsol Multiphysics

LANGUAGE SPOKEN
French: native speaker
English: Fluent (TOEIC 2016 : 960)

OTHER
Advanced open water diver • Car licence

EXPERIENCE

SINAPTEC | KPCB Fellow + Software Engineering Intern
May 2017 - Sep 2017 | Villeneuve D'Ascq, Fr
- Design of a range of sonotrodes for cleaning and Liquid processing (design of sonotrodes and adaptation of a generator to drive them)
- Implementation of product characterization after manufacturing

WINCOR NIXDORF | Software Engineering Intern
Jan 2015 - Feb 2015 | Velizy 2, Fr
- Developed a parsing program in C++ that translate messages between an ATM and an ATM server based on a given protocol
- Followed a corporate charter which defined how to arrange code and comments
- Wrote a documents explaining how does my program works and how to change the protocol and check for issues in messages

SYMBIOFCELL | CAD designer Intern
Summer 2010 | Paris, Fr
- Designed a fuel cell based on instruction given by my tutor
- Discovered how a startup works and develops itself in its early days

RESEARCH

LABORATOIRE AMIÉNOIS DE MATHÉMATIQUE FONDAMENTALE ET APPLIQUÉE | Ph.D. student
Oct 2017 – Sep 2020 | Amiens, Fr & Toulon, Fr
Study of a Biosonar Based on the Modeling of a Complete Chain of Emission-Propagation-Reception with Validation on Sperm Whales

DOSHISHA UNIVERSITY | Head Undergraduate Researcher
Jun 2016- Aug 2016 | Kyoto, Jp
- Wrote a C++ wave propagation simulation in various media
- Fabrication and characterization of a piezoelectric transducer
- Experimentation to characterize the performance of the simulation

PUBLICATIONS

[1] P. Best, M. Ferrari, M. Poupard, S. Paris, R. Marxer, H. Symonds, P. Spong, and H. Glotin. Deep learning and domain transfer for orca vocalization detection. In *International joint conference on neural networks*, 2020.

[2] M. Ferrari, H. Glotin, R. Marxer, and M. Asch. Docc10: Open access dataset of marine mammal transient studies and end-to-end cnn classification. In *IJCNN*, 2020.

[3] M. Ferrari, H. Glotin, R. Marxer, V. Barchasz, V. Sarano, V. Gies, M. Asch, and F. Sarano. High-frequency near-field physeter macrocephalus monitoring by stereo-autoencoder and 3d model of sonar organ. In *OCEANS 2019-Marseille*, pages 1–4. IEEE, 2019.

[4] M. Ferrari, R. Marxer, M. Asch, and H. Glotin. Wave propagation in the biosonar organ of sperm whales using a finite difference time domain method. In *VIHAR*, 2019.

[5] M. Ferrari, M. Poupard, P. Giraudet, R. Marxer, J.-M. Prévot, T. Soriano, and H. Glotin. Efficient artifacts filter by density-based clustering in long term 3d whale passive acoustic monitoring with five hydrophones fixed under an autonomous surface vehicle. In *OCEANS 2019-Marseille*, pages 1–7. IEEE, 2019.

[6] H. Glotin, P. Spong, H. Symonds, V. Roger, R. Balestriero, M. Ferrari, M. Poupard, J. Towers, S. Veirs, R. Marxer, et al. Deep learning for ethoacoustical mapping: Application to a single cachalot long term recording on joint observatories in vancouver island. *The Journal of the Acoustical Society of America*, 144(3):1776–1777, 2018.

[7] H. Glotin, N. Thellier, P. Best, M. Poupard, M. Ferrari, S. Viera, G. Donzé, M. Campana, J. Chevallier, P. Giraudet, F. Malige, J. Patris, J. Prévot, V. Giés, N. Prévot d'Alvise, V. Barchasz, S. Marzetti, F. Sarano, S. Gaillard, and F. de Varenne. Sphyrna-odyssey : Découvertes de chasses abyssales de cachalots en alliance et des effets du confinement covid19. pages 220, CNRS LIS Univ Toulon Ed., 2020.

[8] M. Poupard, M. Ferrari, J. Schluter, P. Astruch, B. Schohn, B. Rouanet, A. Goujard, A. Lyonnet, P. Giraudet, V. Barchasz, et al. Passive acoustics to monitor flagship species near boat traffic in the unesco world heritage natural reserve of scandola. In *Input Academy: International Conference on Innovation in Urban and regional planning*, 2019.

[9] M. Poupard, M. Ferrari, J. Schluter, R. Marxer, P. Giraudet, V. Barchasz, V. Gies, G. Pavan, and H. Glotin. Real-time passive acoustic 3d tracking of deep diving cetacean by small non-uniform mobile surface antenna. In *ICASSP 2019-2019 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, pages 8251–8255. IEEE, 2019.

[10] V. Roger, M. Ferrari, R. Marxer, F. Chamroukhi, and H. Glotin. Towards the topology of autoencoder of calls versus clicks of marine mammal. *The Journal of the Acoustical Society of America*, 144(3):1777–1778, 2018.