

Work Experience

- Data Scientist, [CRESCENT](#), Earth Sciences, University of Oregon, USA

10/2024-now

  - Develop a visualization platform for dynamic rupture simulations on AWS: a containerized dash app, a lambda for preprocessing data, and a React front end for file management.
  - Co-develop a machine learning technical short course for applied deep learning to seismology
  - Design data management and supervise the development of velocity model and fault model platforms: [cvm.cascadiaquakes.org](#) and [cfm.cascadiaquakes.org](#). Both platforms are hosted on AWS.
  - Engage in a variety of conferences and workshops to showcase our platforms and collect input from diverse end users, including those from the private sector, local and federal emergency management agencies, and the academic research community.
- Research Scientist, Earth Sciences, University of Oregon, USA

01/2023-10/2024

  - GNSS daily time series denoising using a Graph Neural Network. Bachelot, L., et al. (2025). Cascadia Daily GNSS Time Series Denoising: Graph Neural Network and Stack Filtering. *Seismica*, 2(4). <https://doi.org/10.26443/seismica.v2i4.1419>. GNSS sub-daily positioning using PRIDE PPP-ar software for the Cascadia region.
  - Data science/ machine learning consulting on multiple projects: GNSS denoising using simulation data, Fakequakes on demand in AWS, Grid search acceleration for LFE localization (*J-T. Lin et al. 2024 Preprint*)
  - Organizing and leading workshops for the department on better leveraging programming tools (GitHub, Python environment management, IDE, development life cycle)
- Data Scientist, IFREMER - France,

01/2021-01/2022

  - Machine learning applied to ocean data in a cloud environment for the European project [Blue-Cloud](#): in the group of Kevin Balem, Guillaume Maze, Andrea Garcia Juan (Ifremer LOPS) and Massimiliano Drudi (CMCC)
  - Temperature and salinity profile prediction using deep learning on Argo data in the group of Etienne Pauthenet, Anne-Marie Treguier, and Kevin Balem (Ifremer LOPS)  
*Pauthenet, E. et al.: Four-dimensional temperature, salinity and mixed-layer depth in the Gulf Stream, reconstructed from remote-sensing and in situ observations with neural networks, Ocean Sci., 18, 1221–1244, <https://doi.org/10.5194/os-18-1221-2022>, 202.*
  - Bioacoustics: automatic detection and extraction of biomass in acoustic data *Muriel Dunn, et al. 2023. Inverse method applied to autonomous broadband hydroacoustic survey detects higher densities of zooplankton in near-surface aggregations than vessel-based net survey. Canadian Journal of Fisheries and Aquatic Sciences. 80(3): 451-467. <https://doi.org/10.1139/cjfas-2022-0105>*
- Data Scientist, Revenue management, Air-France KLM, Paris - France

02/2020-07/2020

  - Building tools to support the pricing and the booking of commercial flights used at Air-France KLM and many other airlines (Delta, Alitalia, China Airline: more than 8000 users), decision support.
  - Co-product owner of the project on private fares, working with Infare.

Academic Work

- Deep learning Research Intern Laboratoire des Signaux Systèmes Intégrés, University Of Quebec Trois-Rivières - Canada

05/2019-10/2019

  - Research and implementation on CNN in the frequency domain
  - Parallelization on GPU and CPU of gene detection in DNA using signal processing: 600x faster: openMP, profiling  
*Massicotte, et al. "Low Complexity Frequency Monitoring Filter for Fast Exon Prediction Sequence Analysis", IEEE Global Conf. on Signal and Information Processing (GlobalSIP), Ottawa, Nov. 2019.*
  - Collaborated on other research projects involving artificial intelligence (EEG/EMG movement recognition, speaker distortion)

Education

- Master of Science: Artificial Intelligence and Big Data - University Of Cergy-Pontoise - France

09/2017-09/2019
- Exchange Semester: Artificial Intelligence and Big Data - University Of Jyväskylä - Finland

01/2018-06/2018
- Bachelor of Science: Computer science (equivalent) - University Of Cergy-Pontoise - France

09/2014-09/2017

Skills

General	Programming	Tools
<ul style="list-style-type: none"><li>Machine learning/Deep learning</li><li>Parallel computing/cloud</li><li>Data Mining</li><li>Project management</li><li>English: Fluent</li><li>French: Fluent</li></ul>	<ul style="list-style-type: none"><li>Python</li><li>SQL</li><li>C/C++, Java</li><li>JS/HTML/PHP/CSS</li><li>Git</li></ul>	<ul style="list-style-type: none"><li>Linux/Windows</li><li>AWS</li><li>Tensorflow/PyTorch</li><li>MPI/OpenMP</li><li>HPC (slurm, PBS)</li><li>Docker/AWS ECR</li></ul>