I am Ph.D. in computer science applied to oceanography, at Sorbonne University, LIP6, under the supervision of Dominique Béréziat and Anastase Charantonis. I am now working at Amphitrite, as a computer vision R&D researcher.

I am interested in all research bridging geosciences and machine learning but I mainly study deep learning methods to reconstruct satellite data of the ocean surface with a particular focus on sea surface height and temperature.

During my Ph.D., (manuscript), (slides), I designed deep learning models to reconstruct the Sea Surface Height (SSH) using multivariate satellite observations, presenting various noise sources. If you have any question about similar work or related matters, feel free to contact me.

Contact: theo.archambault@amphitrite.fr, Research Gate, Semantic Scholar, Google Scholar

Publications

Journal

Archambault, T., Filoche, A., Charantonis, A.A., Béréziat, D., & Thiria, S. (2024). *Learning Sea Surface Height Interpolation From Multi-Variate Simulated Satellite Observations*. Journal of Advances in Modeling Earth Systems (JAMES). link , file

Thiria, S., Sorror, C., Archambault, T., Charantonis, A.A., Béréziat, D., Mejia, C., Molines, J.M., & Crépon, M. (2023). *Downscaling of ocean fields by fusion of heterogeneous observations using Deep Learning algorithms*. Ocean Modelling. link (ask me the file in an email)

Archambault, T., Charantonis, A.A., Béréziat, D., Mejia, C., & Thiria, S. (2022). *Sea surface height super-resolution using high-resolution sea surface temperature with a subpixel convolutional residual network*. Environmental Data Science. link , file

Conference

Archambault, T., Filoche, A., Charantonis, A., & Béréziat, D. (2024). *Pre-training and Fine-tuning Attention Based Encoder Decoder Improves Sea Surface Height Multi-variate Inpainting*. VISAPP. link , file

Archambault, T., Filoche, A., Charantonis, A.A., & Béréziat, D. (2023). *Multimodal Unsupervised Spatio-Temporal Interpolation of Satellite Ocean Altimetry Maps*. VISAPP. link , file

Filoche, A., Archambault, T., Charantonis, A.A., & Béréziat, D. (2022). *Statistics-Free Interpolation of Ocean Observations with Deep Spatio-Temporal Prior*. ECML MACLEAN workshop. link , file

Archambault, T. ,Filoche, A., Charantonis, A.A., & Béréziat, D. (2022). *Unlearned Downscaling of Sea Surface Height with Deep Image Prior. ICLR AI for Earth Science Workshop*. link , file

Archambault, T., Charantonis, A., Béréziat, D., & Thiria, S. (2022). *SSH Super-Resolution using high resolution SST with a Subpixel Convolutional Residual Network*. Climate Informatics. link , file

Preprint

Archambault, T., Filoche, A., Charantonis, A.A., Béréziat, D., & Thiria, S. (2023). *Unsupervised Learning of Sea Surface Height Interpolation from Multi-variate Simulated Satellite Observations*. ArXiv, abs/2310.07626. link , file

Presentations

In conferences

EGU 2024: Oral presentation (on site): slides , abstract

VISAPP 2024: Oral presentation (on site): slides

VISAPP 2023: Poster presentation (on site): poster

RFIAP 2022: Poster presentation (on site): poster . It is an accepted resubmission of my work in Climate informatics 2022.

Climate Informatics 2022: Oral presentation (online): slides .

In seminar and study groups

Formal-v2 launch day 2024 : Oral presentation (on site): link slides

Telecom Paris Seminar 2023: Oral presentation (on site): slides

Formal-v2 launch day 2023 : Poster presentation (on site): link

SAMA/SCAI study group 2022: Oral presentation (on site): slides