

Vadim BERTRAND

<https://github.com/vadmbertr/>

+33 6 14 62 32 18
vadim.bertrand@gmail.com
Grenoble area
France



1st year PhD student in Oceanography – Master's Degree in Statistics – Software Engineer

EDUCATION

- 2024- **PhD** | Institut des Géosciences de l'Environnement, Team **MEOM**
Stochastic Modelling of Drifting Object Trajectories at the Ocean Surface using Machine Learning
Supervised by Julien Le Sommer (CNRS Researcher), Emmanuel Cosme (UGA Full Professor) and Adeline Leclercq Samson (UGA Full Professor)
→ Implementing the Python package [sealagrangiax](#)
- 2023 **Master's Degree in Statistics** | Université Grenoble Alpes – IM²AG
Ranked 1st, Graduated with High Honors
Bayesian statistics, Computational statistics, Spatial statistics, Operations research and optimization, Non-parametric and functional estimation, Supervised and unsupervised learning
- 2014 **Engineering Degree** | Grenoble INP – Phelma / Ensimag
Signal processing, Algorithms and programming, Graph theory, Information theory

ACADEMIC AND PROFESSIONAL EXPERIENCE

- 2023 **Research Engineer** | Institut des Géosciences de l'Environnement, Team **MEOM**
Variational cyclogeostrophic inversion for estimating ocean surface currents
Supervised by Emmanuel Cosme (UGA Full Professor) and Julien Le Sommer (CNRS Researcher)
→ Implemented the Python package [jaxparrow](#), leveraging JAX
- 2023 **Research Internship** | TIMC – Team Models and Algorithms for **Genomics**
Exploration of joint deconvolution algorithms for omic data ([report](#), [poster](#))
Supervised by Magali Richard (CNRS Researcher)
- 2022-2023 **Mentored Master's Project** | Université Grenoble Alpes – IM²AG
Effect of anthropogenic noise on narwhals behavior (as part of [this larger study](#))
Supervised by Adeline Leclercq Samson (UGA Full Professor)
- 2022 **Research Internship** | Laboratoire Jean Kuntzmann – Team **Données, Apprentissage et Optimisation**
Deep generative learning for next-generation drugs ([report](#))
Supervised by Sergei Grudin (CNRS Researcher)
- 2016-2021 **Software Engineer** | Inria / GIPSA-lab – Team **Dynamics and Control of Networks**
Supervised by Carlos Canudas-de-Wit (CNRS Researcher)
→ Developed the web-application [GTL-VILLE](#), collecting, estimating and predicting road traffic indicators in real time in the Grenoble Metropolis ([subsequent publication](#))

TEACHING

- 2024 **Statistics (Practical Session)** | Université Grenoble Alpes - Bachelor in Biochemistry

INTERNSHIP SUPERVISION

- 2024 **Léo Boux de Casson (Bachelor, École Normale Supérieure de Lyon)**, with Julien Le Sommer
Eulerian comparison of lagrangian drifter velocities and reconstructed sea surface currents within the SWOT swath in the Mediterranean sea

SCIENTIFIC CONTRIBUTIONS

- 2024 **Python Package** | [sealagrangiax](#) *A stochastic Lagrangian trajectories sampler for ocean surface drifters*
- 2024 **Oral Presentation** | *Cyclogeostrophic inversion for estimating Sea Surface Currents from SWOT altimeter data*, 30YPRA-OSTST, Montpellier, France
- 2024 **Poster Presentation** | *Cyclogeostrophic inversion for estimating Sea Surface Currents*, EGU, Vienna, Austria. [10.5194/egusphere-egu24-17489](#)
- 2023 **Python Package** | [jaxparrow](#) *A package for computing the inversion of the cyclogeostrophic balance based on a variational formulation approach*
- 2023 **Poster Presentation** | *Scoring and ranking strategies to benchmark cell type deconvolution pipelines*, JOBIM and ISMB, Nice and Lyon, France. [PDF](#)
- 2018 **Journal Article** | G. Casadei, V. Bertrand, B. Gouin, C. Canudas-de-Wit, *Aggregation and travel time calculation over large scale traffic networks: An empiric study on the Grenoble City*. Transportation Research Part C: Emerging Technologies, 2018. [10.1016/j.trc.2018.07.033](#)

MISCELLANEOUS

Living languages

English: fluent, Spanish: notions

Programming languages

Python (JAX, PyTorch, NumPy, Xarray, etc...), Julia, R ; Git ; Shell scripting

Daily hobbies

Touch Rugby (what's that???), Running, Ski touring, Diving (not enough...)