Vadim Bertrand

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Grenoble area
FRANCE

Statistics and Data Sciences 2nd year Master Student – Software Engineer

Education

- **2022 – 2023 (expected)** **Université Grenoble Alpes – IM²AG**
  2nd year Master's in Statistics and Data Sciences – Labelled "Core IA" by MIAI
  - Bayesian statistics
  - Biostatistics: mediation, mixed-models, survival analysis
  - Computational statistics: bootstrap, Monte Carlo, permutation
  - High dimensionality statistics: multiple testing ; regression stability
  - Non-parametric and functional estimation
  - Operations research and optimization
  - Spatial statistics (stochastic processes)
  - Supervised learning: Neural Networks, random forest, Support Vector Machine
  - Text mining: MLP, LSTM, Transformers
- **2021 – 2022** **Université Grenoble Alpes – IM²AG**
  1st year Master's in Statistics and Data Sciences – Labelled "Core IA" by MIAI
  - Data analysis: PCA, FCA, FCMA
  - Linear and Generalized Linear Models
  - Probability, inferential statistics and statistical tests
  - Time series analysis
  - Unsupervised (hierarchical clustering, k-means) and supervised (kNN, LDA/QDA, Lasso/Ridge/Elastic-Net) learning
- **2011 – 2014** **Grenoble INP – Phelma / Ensimag**
  Engineering degree "Internet, Services and Connected Systems"

Academic and Professional Experience

- **Nov. 2022 – Feb. 2023** **Tutored project – 2nd year Master's**
  - Effect of human disturbance on narwhals feeding
    - Used of Poisson process, GLM and mixed-models for modelling
    - Constructed confidence intervals through a Monte Carlo procedure
  - Estimating the age of narwhals from their tusk grooves
    - Modelling by a double sine composed with a Ornstein-Uhlenbeck process
    - Identifiability simulation using SAEM algorithm with a MCMC step
- **May 2022 – Aug. 2022** **Research Internship – DAO team of LJK – Grenoble**
  "Deep generative learning for next-generation drugs" – 1st year Master's internship – ***report***
  - Extended a 2D image inpainting CNN to 3D and drugs generation tasks
  - Used an invariant ligand-protein complex representation based on oriented residue density grids
  - Implemented using PyTorch library
- **Sept. 2016 – Aug. 2021** **Engineer – DANCE team (CNRS / Inria) – Grenoble**
  - Developed, deployed and maintained applications for collecting, estimating and predicting road traffic indicators in real time in the Grenoble Metropolis via the use of models designed by members of the team
    - http://gtl.inrialpes.fr (stable)
    - http://gtlville.inrialpes.fr (experimental)
  - Collaborated with PhD / post-doctoral students and supervised interns
    - Evaluated the impact of reducing the maximum speed limit to 70kmph on pollutant emissions on Grenoble's south ring during pollution peaks
    - Built a dynamic partition model – based on nodes' state – of a road network to estimate travel times through the obtained partitions – ***paper***
  - Wrote technical documentation for the opening of a public tender to collect traffic data

1994
First snowplows

1996
Judo white belt

1998
Initiation to rugby

2007
Sport-study rugby program

2012
3 months in Australia

2014
Switch to ski touring

2015
2 months around the Balkans

2017
Transition to Touch rugby

2019
Rediscovered chess

2020
1st diving level

2021
Integrated the M30 Touch rugby French selection

Languages

English Fluent
Spanish Notions

Miscellaneous

Python, R, Julia
LaTeX
Git
Shell scripting