Sothea Has

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EDUCATION

France	**Sorbonne University Pierre and Marie Curie - Paris 6**
2018 - Present	Ph.D student of Statistical Learning under supervision of Mathilde Mougeot and Aurélie Fischer
Research topic	*Consensual aggregation and distance measurements for statistical learning. Theoretical contributions and applications to the field of energy.*

🖋 Combining of supervised & unsupervised machine learning methods for predictions.
🖋 Kernel-based consensual aggregation of several predictors for predictions.
🖋 Consensual aggregation of random projected high-dimensional features.

France	**University Paris Diderot - Paris 7**
2017 - 2018	Master 2 Random Modelling and Data Science (M2MO)
Project	Data Science for Company, Massive Data Processing (R-programming).
Exam	Statistical Learning, Statistical Modeling, Diffusion Statistics, Stochastic Calculus.
Both	Machine Learning (Python), Monte Carlo Method (C++).

France	**École Nationale Supérieure d'Informatique pour l'Industrie et l'Enterprise - ENSIIE**
2016 - 2017	Master 1 Applied Mathematics
Project	Time Series, Simulation Methods, Research Project in Finance, Machine Learning.
Exam	Stochastic Process, Operation Research, Stochastic Calculus in Finance.
Both	Data Analysis, Numerical Methods for PDE, C++.

Cambodia	**Royal University of Phnom Penh - RUPP**
2014 - 2015	Master 1 of Mathematics
2009 - 2013	Bachelor's Degree of Mathematics

PUBLICATIONS

April 2021	🖋 KFC: A clusterwise supervised learning procedure based on aggregation of distances. *Published in Journal of Statistical Computation and Simulation, with Aurélie Fischer and Mathilde Mougeot.*
2021	🖋 Comparison of Various Machine Learning Methods Applied to the Global Modeling of Event-Driven Pitch Angle Diffusion Coefficients During Geomagnetic Storms.
Research topic	*Coupled Feedback Mechanisms in the Magnetosphere-Ionosphere System, abstract accepted in Frontiers, with G. Kluth, J.F. Ripoll, A. Fischer, M. Mougeot, and E. Camporeale.*
2021	🖋 A kernel-based consensual aggregation for regression. *Submitted and is under review.*
2021	🖋 A consensual aggregation of random projected high-dimensional features of predictions for regression. *To be submitted.*

EXPERIENCES

2018 - Present **LPSM (UMR 8001) and UFR Mathematics Université de Paris**
Ph.D research, teaching mission and ATER:
- Practical class of Data Analysis with R and R-studio, M1ISIFAR.
- Practical class of Data Mining with R and R-studio, M2ISIFAR.
- Practical class of Exploratory Data Analysis with R and R-studio, M1 EDA.
- Practical class of Algorithm and Programming with Python, L2 MIASHS.
- Practical class of Big Data Technologies with Python and Spark, M1MATINF.
- Tutorial class of Statistical Inference and Data Modeling, M2MO.

2018
April - Sep **LPSM (UMR 8001) Université de Paris**
M2 internship: Predictive Models based on Clustering with Bregman divergences and Local Predictions
Analysis of sensitivity of K-means clustering with Bregman divergences on several types of datasets. Construction of predictive models in two steps: clustering and local predictive models. Numerical experiments carried out on several synthetic data are also provided to illustrate the performance of the proposed two-step procedure.

2017
June - Sep **Laboratory of TELECOM SudParis**
M1 internship: Optimization Problem with Simulated Annealing Algorithm
Understanding the convergence of simulated annealing algorithm which is a probabilistic method aiming at estimating the global optimizer of a given function (deterministic or not). Two unbiased estimators of "rejection ratio" which is the key quantity of the method, in the case of noisy cost function, are proposed. The performances of the method are also illustrated through several numerical simulations.

SCHOLARSHIP & AWARDS

LPSM Scholarship
2018 - Present Ph.D and research funds.

ENSIIE Scholarship
2017 - 2018 Second year of master's degree.

Erasmus+ Scholarship
2016 - 2017 First year of master's degree.

LANGUAGES & PROGRAMMING

Languages Khmer (Mother tongue), English (fluent), French (conversational)
Programming R, Python, C++, Matlab, Scilab, LaTeX.

PERSONAL INTEREST

Reading Behavioral science, self-discipline and new discoveries.
Sports Volleyball, basketball and football.
Other interests Music, guitar, a little bit piano and drum, drawing.