Margaux Brégère | Associate Professor - Research Engineer

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Education

2017 - 2020 **PhD in Applied Mathematics** - EDF, Université Paris-Sud, Inria - Île-de-France
Stochastic Bandit Algorithms for Demand Side Management
Thesis supervised by Gilles Stoltz (CNRS, Laboratoire de Mathématiques d'Orsay, Probability and Statistics team), Yannig Goude (EDF R&D, Optimization simulation risks and statistics department) and Pierre Gaillard (Inria Paris, SIERRA team: Machine Learning research laboratory)
Training courses: Statistics, Probablitiy, Machine Learning, Optimization, Electricity Markets, Economics and Regulation of Smart Grids, High-Performance Computing
Institute for Systems and Computer Engineering, Technology and Science, Porto, Portugal
Three-month collaboration with the Power and Energy Systemteam

Awards

2022 ⋆ **TSG** : Think SmartGrids association Award

2021 ⋆ **AMIES** : Finalist for the Agency for Mathematics in Interaction with Business and Society Award
⋆ **JDSE** : Junior Conference on Data Science and Engineering award

2017
2017 **Engineering School Supaéro - multidisciplinary Master's Degree in Engineering Sciences** - Institut Supérieur de l'Aéronautique et de l'Espace - Toulouse

2016 **Research Master's Degree in Applied Mathematics to Life Sciences with distinction**, Université Paris-Saclay - Orsay

2011 - 2013 **Intensive program preparing for the national competitive exam for entry to engineering schools (MPSI, MP)** - Lycée Saint-Louis - Paris

2011 **Baccalauréat (High school diploma) Specialisation in mathematics with distinction** - Lycée Saint-Paul - Angoulême

Work experience

2023 - **Sorbonne Université**, Paris
Associate Professor

2020 - **EDF R&D**, Palaiseau
Researcher engineer in the pptimization simulation risks and statistics department Studies and development of statistical and machine learning models for electrical consumption forecasting at short and medium term, production of renewable energies and in relation to energy markets; supervision of internships and thesis; design and participation in EDF internal training courses

2017 **EDF R&D - Département OSIRIS**, Palaiseau
Internship: Modeling for power consumption control

2016 **INRA-AgroParisTech Mathematics and Computer science Lab,**, Paris
Research internship (6 months): Variable selection methods for metabolomics multivariate data

2015 **Institute of Electronic Structure and Laser (IESL)**, Heraklion, Greece
Research internship (3 months) : Propagation of waves in photonic networks

2014 **Afrijet Business Service**, Libreville, Gabon
Work experience placement (1 month)

2022 - 2023	⋆ **Sorbonne Université,** Data Science research workshop - 1st year of Bachelor's degree
2022 - 2023	⋆ **Sorbonne Université**, Tutorial in python on continuous optimisation - 2nd year of Bachelor's degree
2021 - 2023	⋆ **Institut de Statistique de Sorbonne Université, filière ISDS**, Statistical Learning for Time Series Forecasting - 2nd year of Master's degree
2019 - 2022	⋆ **ENSAE**, Intervention in the statistical modeling seminar and project management - 1st ear of Master's degree
2018 - 2022	⋆ **ENSAI**, Semi-parametric regression models - 2nd ear of Master's degree ,
2017 - 2019	⋆ **Université Paris-Sud**, Tutorial on probability and statistics - 2nd year of Bachelor's degree
2017 - 2018	⋆ **Université Paris-Sud**, Tutorial on probability - 1st year of Bachelor's degree

SKILLS

LANGUAGES

French - Native language

English - Professional competence

German, Spanish - Basic skills

COMPUTER SCIENCE

Programming- **R, Python** (basic skills in C, C++, Java)

Computing - **RStudio, Shiny, Jupyter, PyCharm, Tensorflow**

Other - **Latex, Git, Pack Office**

PUBLICATIONS

THÈSE

2020	**Stochastic Bandit Algorithms for Demand Side Management**, Université Paris-Saclay

ARTICLES

2022	**Online Hierarchical Forecasting for Power Consumption Data**, M. Brégère and M. Huard, International Journal of Forecasting
2020	**Simulating tariff impact in electrical energy consumption profiles with conditional variational autoencoders**, M. Brégère and R. J. Bessa, IEEE Access
2019	**Target Tracking for Contextual Bandits : Application to Demand Side Management**, M. Brégère, P. Gaillard, Y. Goude and G. Stoltz, International Conference on Machine Learning
2018	**A variable selection approach in the multivariate linear model : An application to LC-MS metabolomics data**, M. Perrot-Dockès, C. Lévy-Leduc, J. Chiquet, L. Sansonnet, M. Brégère, M.-P. Etienne, S. Robin and G. Genta-Jouve, Statistical Applications in Genetics and Molecular Biology

INTERESTS

2022 -	**Énergie Jeunes** Association that fights educational inequalities by intervening in disadvantaged classes
2022 -	**La Fresque du Climat** Association that sets up collaborative workshops to understand the essentials of climate issues based on IPCC reports
2021 -	**FrENBIS** French branch of the *European Network for Business and Industrial Statistics*
2019 - 2023	**Société Française de Statistique** Young Statisticians group webmaster and organizer of Young Statisticians and Probabilists days
2018	**MATh.en.JEANS** Association developing mathematical research workshops in schools - Organization of the Orsay congress
2014 - 2015	**Supaéro painting club** - Head of the club
2008 - 2010	**International Comic Festival in Angoulême** - Volunteer
	Drawing and Painting ⊙, **Photography, Hiking, Kite-surfing, Sailing (boating licence)**