Julie Keisler

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Experience

Starting research position *June 2025 - now*
INRIA Paris - EDF R&D

- Future evolution of wind resources and relevance of machine learning methods for statistical downscaling.
- Supervised with Pr. Claire Monteleoni, Yannig Goude and Boutheina Oueslati.

PhD in Computer Science *Feb 2022 – Feb 2025*
EDF R&D - University of Lille - INRIA Paris

- Automated Deep Learning: algorithms and software for energy sustainability.
- Supervised by Pr. Claire Monteleoni, Pr. El-Ghazali Talbi and Margaux Brégère.

Teaching Assistant *Gif-sur-Yvette, since 2024*
Faculté des Sciences d'Orsay - Université Paris Saclay

- Practical Work: Introduction to Deep Learning, for the MS Mathematics and AI.

Data Scientist Intern - 6 months *Rueil-Malmaison, 2021*
Sagemcom

- Data Analysis and load forecasting for a rural electrification project in Madagascar.
- Development of microservices for customers (Docker, Jenkins, Spark technologies).

Awards

INREC 2024 conference, best paper award *Sept 2024, Essen*

Automated Spatio-Temporal Weather Modeling for Load Forecasting., with Margaux Brégère

Flood Map Prediction challenge, winning team. *Jan - April 2024, Paris*

- Prediction of flood risk maps without streamflow data.
- Winning proposition with a CNN-based solution, team work with Eva Girousse.
- Workshop paper at ICLR 2025 Workshop: Tackling Climate Change with Machine Learning.

Education

Télécom Paris *Sept 2018 – Sept 2021*
Engineer Degree (MS in Computer Science)

- Major in signal processing for AI, minor in computer graphics and interactive systems.

ETH Zürich *Sept 2020 – Feb 2021*
Exchange student

- Semester Thesis in the Power System Laboratory: Benchmark electric power consumption forecasting algorithms, supervised by Yi Wang.
- **Coursework:** Power Market - Portfolio and Risk Management, Neural Network Theory, Environmental Systems Data Science, Corporate Sustainability.

Lycée Montaigne, Bordeaux *Sept 2016 – Sept 2018*
*CPGE, MPSI/MP**

- Undergraduate studies to prepare for competitive entry exams to french engineering schools (Grandes Ecoles). Subjects studied: Mathematics, Computer Science, Physics, French literature, German and English.

Selected Publications

An algorithmic framework for the optimization of deep neural networks architectures and hyperparameters. *June 2024*

Julie Keisler, El-Ghazali Talbi, Sandra Claudel, Gilles Cabriel

Journal of Machine Learning Research (JMLR)

Automated Deep Learning for Load Forecasting. *Sept 2024*

Julie Keisler, Sandra Claudel, Gilles Cabriel, Margaux Brégère

International Conference on Automated Machine Learning (AutoML).

WindDragon: Automated deep learning for regional wind power forecasting. *March 2025*

Julie Keisler, Etienne Le Naour

Environmental Data Science.

A Bandit Approach with Evolutionary Operators for Model Selection. *Aug 2024*

Margaux Brégère, ***Julie Keisler***

International Workshop on Resource-Efficient Learning for Knowledge Discovery, ACM SigKDD.

AutoML algorithms for online generalized additive model selection: application to electricity demand forecasting *Sept 2025*

Keshav Das, ***Julie Keisler***, Amaury Durand, Margaux Brégère

International Conference on Automated Machine Learning (AutoML).

Various Research activities

Python package DRAGON. *Documentation*

- Python package for the optimization of deep neural networks architectures and hyperparameters.

Hackathons.

- EDF Challenge Data Science 2023, Electric Vehicle Load Forecasting, Special mention.
- Hack4Good 2020, ETH Zürich, project with the NGO Impact Initiatives for curbstoning detection.

Conference Reviewer.

- ICANN24, CCAI workshop at NeurIPS24 and 2024 IEEE Congress on Evolutionary Computation (CEC).

MS internships supervision. *2024 - 2025*

- Global forecasting models for a large number of time series, EDF R&D.
- Future evolution of the wind resource and the interest of machine learning methods for statistical wind downscaling, EDF R&D and INRIA Paris.
- Automated selection of adaptive additive models, application to load consumption forecasting, EDF R&D.

Selected Talks

55es Journées de Statistique de la SFdS. *Bordeaux, June 2024*

- Mutant-UCB: entre bandits et algorithme évolutionnaire, une approche pour la sélection de modèles.

ICLR 2024 Workshop on Tackling Climate Change with Machine Learning *Wien, May 2024*

- WindDragon: enhancing wind power forecasting with automated deep learning.

ConfStochStatML workshop, Wolfgang Pauli Institute. *Wien, Sept 2023*

- Short-term load forecasting using optimized Deep Neural Networks.

Skills

Programming Languages: Python, R, C++

Packages: PyTorch, TensorFlow, Scikit-Learn, Numpy, Pandas, Xarray.

Tools: Linux, Latex, Git, Slurm on HPC, MPI, Docker.

Languages: French (native), English (fluent), German (intermediate).

Others: Football, guitar (end of musical studies certificate).