

# Guillem HURALT | Data Scientist

London SE1 – UK

 ghurault.github.io •  ghurault •  ghurault •  French • UK Settled Status




Data Scientist with a **PhD in Statistical Machine Learning** and an engineering degree. Deep expertise in **Bayesian modelling** and **time-series forecasting**. Research and industry experience in healthcare, sports analytics and energy.

## Professional Experience

2024/08 - Now **Senior Data Scientist**, *CFP Energy*, London, UK




Developed machine learning pipelines to forecast electricity load and prices, for intra-day power trading and pricing Power Purchase Agreement (PPA) for renewable energy projects.

2022/09 - **Data Scientist**, *Pythia Sports*, London, UK




- 2024/08  Conducted statistical modelling research for a sports betting pipeline, incl.: Bayesian predictive modelling, bet optimisation under uncertainty, time-series forecasting of prices, 2D markerless pose estimation in videos.
-  Managed and maintained the model for a complete betting market.
-  Maintained, refactored and wrote technical documentation for our internal Python modelling packages.

2017/10 - *Imperial College London (Department of Bioengineering)*, UK

2022/09 **Research Associate (2022/06 - 2022/09)** – **Research Assistant (2017/10 - 2022/05)**

-  Analysed real-world and clinical trial patient data with state-of-the-art Bayesian models for time-series forecasting, to predict the evolution of eczema severity and generate personalised treatment recommendations.
-  Published 10+ scientific articles to clinical and machine learning audiences. Developed software packages (EczemaPred, HuraultMisc). Presented work at international conferences. Reviewed several research papers.
-  Supervised 25+ student projects, conducted interviews, managed internal packages, knowledge base and website.

2019 - 2021 **Teaching Assistant**, *Imperial College London (Department of Bioengineering)*, UK, part-time

-  Probability & Statistics  Mathematics  Occasional teaching in Machine Learning and Brain Machine Interfaces.

2016/05 - **Research Intern**, *Laboratoire de Neurosciences Cognitives (CNRS UMR 7291)*, Aix-Marseille Université, France

2016/07 Analysed fMRI images using Machine Learning to understand the role of the oculomotor cortex in social perception.

## Education

2018 - 2022 **PhD in Statistical Machine Learning**, *Imperial College London (Department of Bioengineering)*, UK

Thesis: Towards a data-driven personalised management of Atopic Dermatitis severity. Supervisor: Prof. Tanaka.











2016 - 2017 **MSc in Biomedical Engineering, Neurotechnology**, *Imperial College London*, UK, Distinction









2014 - 2018 **Master's Degree in Engineering**, *Ecole Centrale de Lyon*, one of France's top engineering schools

2014 - 2016 **Bachelor's Degree in Economics**, *Université Lyon 2*, France

## Skills

Languages  Native **French**  Fluent **English**  Conversational Portuguese

Data Science  Machine Learning  Statistics  Bayesian modelling  Time-series forecasting  Uncertainty quantification  
 Visualisation  Missing values  Regularisation  Decision analysis  Clustering

Programming **Working knowledge:**  R (incl. tidyverse, Rmarkdown/Quarto, Shiny)  Python (incl. pandas, numpy, scikit-learn, scipy, ArviZ, DeepLabCut)  Stan  LaTeX  RegEx  Git  SQL  Conda

**Basic knowledge:**  MATLAB  C# (incl. Infer.NET)  Docker  bash  HTML  FFmpeg  Tableau

Software  Package development  Object-Oriented Programming  CI / CD  Testing  Refactoring  Technical  
Engineering documentation  Version control

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## Other Experiences

2019 - 2021 **Bioengineering PhD representative**, *Imperial College London*

Represented 200+ PhD researchers in departmental meetings, organised social and professional events.

2014 - 2017 **Engineering student**

- Investigated the evolution of eczema using Machine Learning methods in the Biological Control Systems Lab.
- Designed a genetic algorithm in a research project with LIRIS Lab (CNRS) to solve a scheduling problem.
- Supervised a 6-person team for HEXADRON to design and test a security system to prevent a drone crash.

2015 **General Secretary**, *Forum Perspectives*

Organized a yearly career fair with 100 companies, 2000 students participating and a turnover of 250k€.

2015 **Treasurer, Communication coordinator and Editor** of Centrale Lyon's newspaper Piston Hebdo.

2015 Active committee member of Centrale Lyon's Cinema Society.

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## Selected Publications

- **G. Hurault**, J-F. Stalder, M. Saint Aroman, and R. J. Tanaka, "Data-driven personalised recommendations for eczema treatment using a Bayesian model of severity dynamics", *medRxiv*, 2024
- A. Duverdier\*, **G. Hurault\***, K. Thomas, A. Custovic and R. J. Tanaka, "Evaluation of measurement errors in the Patient-Oriented Eczema Measure (POEM) outcome", *Clinical & Experimental Allergy*, vol. 54, no. 3, p. 207-215, 2024
- **G. Hurault**, K. Pan, R. Mokhtari, B. Olabi, E. Earp, L. Steele, H. C. Williams and R. J. Tanaka, "Detecting eczema areas in digital images: an impossible task?", *JID Innovations*, vol. 2, no. 5, p. 100133, 2022
- **G. Hurault**, J-F. Stalder, S. Mery, A. Delarue, M. Saint Aroman, G. Josse and R. J. Tanaka, "EczemaPred: A computational framework for personalised prediction of eczema severity dynamics", *Clinical and Translational Allergy*, vol. 12, no. 3, p. e12140, 2022.
- **G. Hurault**, E. Roekevisch, M.E. Schram, K. Szegedi, S. Kezic, M.A. Middelkamp-Hup, P.I. Spuls and R. J. Tanaka, "Can serum biomarkers predict the outcome of systemic immunosuppressive therapy in adult atopic dermatitis patients?", *Skin and Health Disease*, vol. 2, no. 1, p. e77, 2022.
- **G. Hurault**, V. Delorieux, Y-M. Kim, K. Ahn, H. C. Williams and R. J. Tanaka, "Impact of environmental factors in predicting daily severity scores of atopic dermatitis", *Clinical and Translational Allergy*, vol. 11, no. 2, 2021.
- K. Pan, **G. Hurault**, K. Arulkumaran, H. C. Williams and R. J. Tanaka, "EczemaNet: Automating Detection and Assessment of Atopic Dermatitis", *International Workshop on Machine Learning in Medical Imaging*, 2020.
- **G. Hurault**, E. Domínguez-Hüttinger, S. M. Langan, H. C. Williams and R. J. Tanaka, "Personalised prediction of daily eczema severity scores using a mechanistic machine learning model", *Clinical & Experimental Allergy*, vol. 50, no. 11, pp. 1258–1266, 2020.

Full list available on [my website](#).