JAUME PALMER REAL

Mathematical Modelling Engineer

jpalm3r in jaumepr SKILLS SUMMARY I am an engineer specialized in mathematical modelling Spanish, Catalan (Native) Languages and data science. English (Proficient) I am curious, creative and resourceful. During my ca-Danish (Beginner) reer, I have gravitated towards projects where I use time-Programming Python, R, SQL, C, C++, html. series analysis and other machine learning tools to describe physical phenomena. → Pandas, Statsmodels, Scikit-learn, Still, I have developed a strong and wide mathematical Darts, Tensorflow, Plotly, Marimo, Streamlit. foundation which helps me adapt to new scientific and Other Tech Git, UV, Dash, Quarto, Docker, ADO, Bigtechnological challenges. Query, AWS. WORK 4/2024 – Current Data & Modelling Specialist DHI Copenhagen Integrating data driven methods to research and commercial projects Building Python tools to enhance and optimize the workflows of our in-house engineers Designing internal courses to educate technical staff on time series and machine learning Python Package Development / Time Series Forecasting / Data Literacy 9/2023 - 4/2024 Data Scientist Oktogrid Copenhagen Developing models for predicting potential failures in medium-sized electric transformers Designing data pipelines that guarantee the quality of our models Supervising research pilot projects to identify new data solutions Forecasting / Predictive Maintenance / Anomaly Detection 9/2022 - 9/2023 Quantitative Developer Ørsted (EPICO IT) Copenhagen Assisting the technical department of subsea cables with mathematical insight · Developing new mathematical tools to support the installation of cables in offshore wind farms Maintaining and expanding a production repository Full-Stack Development / Model Conceptualization / R&D 2/2018 - 2/2019 Researcher **CIMNE-Beearoup** Barcelona · Modelling the consumption of heat pumps from blocks of buildings Machine Learning / Time Series Analysis / Dynamical Systems 10/2017 - 2/2018 Research Assistant Complexity Lab (UB) Barcelona Investigating political discussion in twitter using methods from complexity science Creating visualizations to showcase different roles and effects during online discussion Complex Networks / Data Visualization 9/2015 - 9/2016 **Process Owner** HP inc. Barcelona Analyzing sales operations of printing services and accessories 12/2014 - 9/2015 Packaging Engineer Coty inc. Barcelona · Supporting the development and manufacturing of packaging components EDUCATION 2/2019 - 7/2022 **PhD in Applied Mathematics Technical University of Denmark** Thesis: Exploring novel data-driven methods to evaluate energy efficiency of occupied buildings. The work combined statistical methods and physical knowledge to develop tools that are scalable and easy to interpret 9/2016 - 9/2017 **MSc in Mathematical Modelling** Autonomous University of Barcelona Thesis: Modelling the growth of online social networks. The developed models were later used to simulate the competition of multiple social networks to increase their user base 9/2008 - 9/2014 **Mechanical Engineering Polytechnic University of Catalonia** Thesis: Analysis and optimization of the dynamical response of a vehicle system

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OUTPUT & PF	ROJECTS	
9/2022	Data Visualization Project <u>About</u> : Analyzing the magnitude and distribution of tourist vacancies on the island of Mallorc	link to page a
2/2022	Data Visualization Project <u>About</u> : : Identifying biases while discussing the pandemic in US-centered online political foru	link to page IMS
5/2020	Data Visualization Project About: Quantifying the growth and effects of the pandemic over online discussion	link to page
9/2022	Scientific Publication About: Improving previous work and introducing a framework to improve the classification types based on their consumption patterns	link to article of building
7/2022	Collaboration <u>About</u> : Proposing an automated framework for identifying suitable models of building heat dynamics	
8/2021	Scientific Publication About: Designing a stochastic tool to simulate building energy consumption profiles	link to article
8/2021	Scientific Publication About: Leveraging physics to assess household indoor conditions based on non-intrusive dat	link to article ta
1/2021	Scientific Publication About: Presenting a data-efficient method to evaluate building energy performance based or ing dynamics	link to article In their cool-
10/2020	Collaboration <u>About</u> : Introducing a non-linear dynamical model to evaluate the flexibility of energy systems	link to article

TEACHING & TALKS

2/2022	Guest Speaker <u>Topic</u> : Presenting results from a visualization project	DTU seminar on COVID misinformation
8/2021	Presenting Author Topic: Presenting results from PhD	Building Simulation Conference
8/2021	Presenting Author Topic: Presenting results from PhD	Int. Building Physics Conference
3/2021	Guest Speaker Topic: Presenting results from PhD	NTNU Energy Transition Week
8/2021 - 12/2021	Teaching Assistant Topic: Advanced Time Series Analysis	DTU course (nr. 02427)
1/2020 - 5/2020	Teaching Assistant Topic: Time Series Analysis	DTU course (nr. 02417)
8/2019 & 8/2020 & 8/2021	Teaching assistant <u>Topic</u> : Modelling and Forecasting in Energy Systems	DTU Summer School (nr. 02960)