Let's shape the future together.

The Professorship of Energy Management Technologies focuses on the design and evaluation of innovative information technology to integrate more renewable energy into our energy systems and make energy use more efficient. We develop new algorithms and prototypical systems controlling complex energy systems like the electric grid for a sustainable future. These systems coordinate distributed renewable generation like solar and wind, flexible loads like heat pumps and electric vehicles, and distributed energy storage like stationary batteries and hydrogen storage to maximize energy efficiency while keeping the grid reliable and secure. Our research method is engineering-oriented, prototype-driven, and highly interdisciplinary.

For wind energy, one of the most volatile renewable sources, accurate forecasts remain a major scientific challenge. In the project WindCast we are building holistic forecasting models for both day-ahead and intraday horizons, powered by advanced physics-informed machine learning. By providing open-source tools, WindCast will equip the wind industry to compete confidently in mod-ern markets and accelerate the shift toward a renewable energy future.

If you have any questions, please contact:
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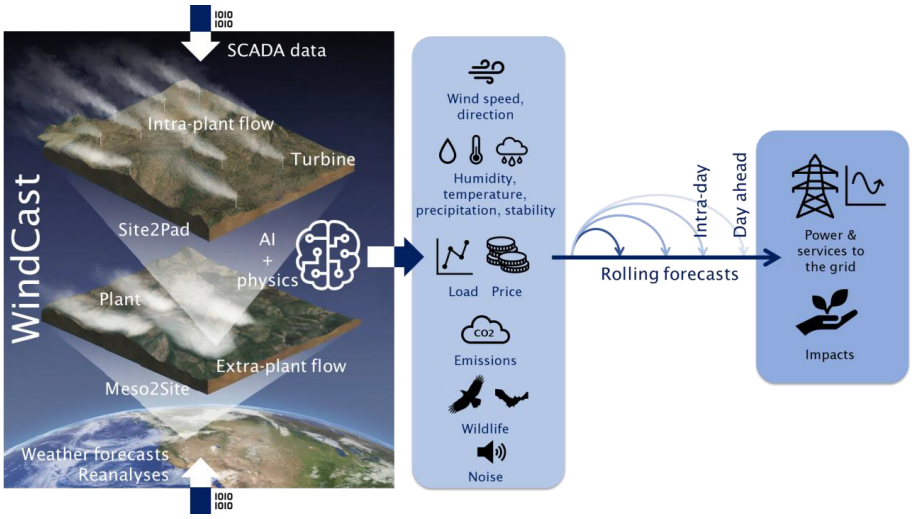

Student Assistant

Machine Learning in Wind Energy Forecasting (f/m/d)

Your tasks:

- Develop and test physics-informed machine-learning models for wind power forecasting
- Collect, clean, and preprocess market data to help integrate demand, price, and grid-service capability forecasting into the holistic model framework
- Prepare visualization dashboards for model outputs and data analytics
- Support building a benchmarking platform for forecasting models
- Conduct literature review

Your Profile:

- Strong interest in machine learning and renewable energy systems
- Student of a quantitative discipline such as Computer Science, Engineering, Mathematics, Physics, or similar
- Experience in developing software using common IDEs and programming languages (e.g., Python) in a team

Our offer:

We offer you the opportunity to support our research within a team of highly motivated researchers with the possibility of contributing to scientific publications.

Your application:

We are looking forward to your application until December 31st. Please submit it as one single PDF file via email to student-applications.emt@ed.tum.de The application should contain the following documents:

- Cover letter presenting your qualifications and experiences in the IT domain
- Curriculum vitae
- Academic transcripts