30/08/2017

Applications are invited for an industrial PhD Studentship

Title: "Predictive Analytics for Short-term Wind and Solar Power Forecasting"

Forecasts of renewable power generation are required for economic and reliable power system operation. In the very-short-term, forecasts are produced by statistical models of generation patterns, including the spatio-temporal dynamics of multiple wind or solar farms in the same region. When forecasting further ahead, meteorological forecasts are used as inputs to predict the output of wind and solar farms. These forecasts are used by participants in electricity markets and by power system operators on a continuous basis to maintain the balance of electricity supply and demand.

This PhD aims to develop improved forecasting methodologies by exploiting contemporary statistical methods for processing large quantities of explanatory data including numerical weather predictions and the wide range of measurements made a wind and solar farms, many of which are available in close to real-time. This PhD would suit candidates with a background in mathematics, statistics, computer science, meteorology, or other numerate disciplines.

This industrial PhD will be carried out in partnership with Natural Power, a leading renewable energy consultancy, and The DataLab, a Scottish Innovation Centre. The successful applicant will join the internationally leading Wind Energy and Control group at the University of Strathclyde, which will provide training in relevant aspects of renewable energy systems.

Details:

- 3.5 year PhD to start in October 2017 (negotiable). Interviews for short-listed candidates will be held in late September.
- The studentship comprises a competitive stipend (£16,000/year, tax free), tuition fees (for EU-applicants only) and travel expenses.
- Project partnership with Natural Power, who will provide industrial supervision, training and context. The student will be expected to work for extended periods at Natural Power offices in Stirling and/or Castle Douglas, to be agreed with the student.

Requirements:

- Minimum: A 2:1 UK honours degree (or international equivalent) in mathematics, statistics, computer science, meteorology, or related discipline. Desirable: a master's degree in a numerate subject and/or relevant work experience.
- Minimum: general interest in renewable energy technology. Desirable: detailed knowledge of wind and/or solar energy technologies and awareness of their interaction with power systems and energy markets.
- Minimum: basic skills in a scripting language (R, Python, MATLAB, or similar). Desirable: advanced skills and portfolio of projects in one or more scripting languages.
- Non-UK candidates whose mother language is not English must provide a certificate of proficiency in the English language: IELTS (Academic): 6.5 overall (no individual band less than 5.5) or PTE (Academic): 62 overall (minimum component score 51).

To apply, email a detailed CV with contact information for two academic referees, and a covering letter highlighting your interest and suitability for the projects, to Dr Jethro Browell (jethro.browell@starth.ac.uk). If you wish to discuss any details of this project informally, please email Dr Browell or tel: + 44 (0)141 444 7297.

REF UK TOP 20 RESEARCH-INTENSIVE UNIVERSITY

THE UK UNIVERSITY OF THE YEAR WINNER

THE UK ENTREPRENEURIAL UNIVERSITY OF THE YEAR WINNER