

AIT Austrian Institute of Technology, the Austrian research institute with European format which focuses on the key infrastructure issues of the future, is looking to strengthen its team with the immediate appointment of a

Master Thesis “Statistical Models of Wind Generation in Distribution Grids”

The fluctuating generation of wind turbines leads to increasing stability problems within the electrical power grid. Current grid planning tools lack in properly addressing this stochastic behaviour. To counteract this inaccurate predication of wind energy fed into Grid, this thesis shows which characteristics of a synthetic wind profile have to be fulfilled to better meet the need of power grid simulations. These characteristics are to be modelled in a stochastic algorithm with differing temporal resolutions to meet the needs for simulating grid and electricity market concerns. Moreover the correlations between single wind turbines operated nearby and wind parks operated in spatial related areas should be taken into consideration while creating the stochastic model.

Work description:

- Surveying the state-of-the-art and existing research activities
- Data analysis (time series)
- Identify the most suitable solution for the given use-case
- Creating a working prototype of the method
- Validation of the method

Qualifications:

- Attending a technical master degree program in Electrical Engineering, Computer Science, Mathematics or similar
- Analytic mind and goal-oriented approach towards solutions
- Good statistical background
- Experience in programming (e.g. Python, R, Java)
- Good English skills, working language are both English and German
- Experience with power grid simulation software (e.g. PowerFactory) and in the field of wind power engineering/simulation are assets

We are pleased to invite interested persons who wish to contribute their knowledge and their ideas to the field of applied research. Please attach meaningful application documents, including certificates and photos.

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