Institut für
Integrierte Produktion Hannover

Master thesis, Bachelor thesis, Project thesis, Internship

Development and comparison of machine learning algorithms

Within the scope of the joint project WindGISKI, an AI-based geoinformation system for the designation of potential areas for wind turbines (WT) is being developed. The aim of the project is to simplify and accelerate the identification of potential areas for onshore wind energy in Germany.

The suitability of a site depends on both hard and soft factors. Examples of hard factors include legal regulations governing a certain minimum distance from residential areas. Soft factors include forest clearances, for example. The construction of a wind turbine is more costly in a forest area, but this factor is not an exclusion criterion. With the help of artificial intelligence, potential areas are to be identified and their suitability evaluated.

Your tasks

You receive the data (as an image file) of a selection of influencing factors and develop a machine learning model, which evaluates the areas in Germany for WT projects. You will inform yourself about supervised, unsupervised and deep learning approaches with the help of a detailed literature review. Based on the literature research, you will select suitable models and train them to find potential areas for wind turbines. Afterwards you validate your results and evaluate the developed models.

Your profile

You are studying one of the following subjects:

- Mechanical Engineering
- Industrial engineering
- Computer science
- Robotics
- Production and Logistics
- Production Engineering
- Electrical Engineering

You have an interest in data analysis, programming and artificial intelligence.

In addition, you have knowledge of Python and have had initial experience with ML models.

Good written and spoken German and English skills are desirable.

We offer

- adequate compensation for internship
- independent work
- flexible working hours
- well-equipped workstations
- home office by arrangement
- long-term cooperation (e.g. part-time job or master thesis), if applicable

Bitte sende deine aussagekräftige Bewerbung in einer einzigen PDF-Datei an jobs@iph-hannover.de.

Die Bewerbung muss Anschreiben, Lebenslauf sowie Prüfungsleistungen des Studiums / Zeugnisse enthalten.

Contact

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Still not convinced?

Besuche unsere Website oder Social Media Kanäle und bekomme einen ersten Eindruck von uns!

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