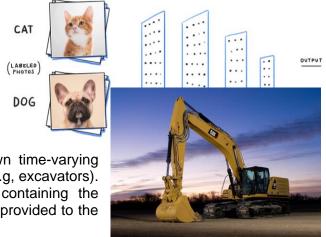## Hiwi (m/w/d) gesucht

Using Machine Learning for working load type classification/recognition

Electro-hydraulic actuators of mobile machines may work under multiple types of working loads during operation. Different types of working loads have different effects on the control performance. A good classification/recognition of the types of working load can improve the control accuracy and robustness.

In this project, machine learning methods are to be designed to percept the environment in real-time and to recognize/classify the unknown time-varying external working condition of mobile machines (i.g, excavators). Further details about this project and data containing the characteristics of different working loads will be provided to the Hiwi.

If you are interested in this project, please send your application documents (i.e., a brief cover letter, curriculum vitae, and transcript) to the email address below.

Aufgabengebiete:

- Controller design: Using Machine Learning for working load type classification/recognition of mobile machines.

- Simulation including architecture design, training, and evaluation of the proposed ML control strategy.

- Working language: English.

Arbeitszeit und Beginn:

- From now on.

- 20 – 40 h/Monat.

- Duration: after consultation, long-term cooperation is aimed for.

Voraussetzungen:

- Interests in control, machine learning, and electro-hydraulic systems.

- Independent, responsible and reliable working ability.

- Bachelor from the 4th semester or master's student specializing in machine learning, control, mechatronics, or similar. (ps: master's students would be preferred.)

- Knowledge of using machine learning methods for classification/recognition (e.g., CNN, transformer CNN, VGG16, ResNet).

- Proficient in using Python programing, Pytorch, and MATLAB Simulink.

Ansprechpartner:

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