With 9,500 employees worldwide, AVL is the world's largest independent company for the development, simulation and testing of powertrain systems (hybrid, combustion engine, transmission, electric drive, batteries, fuel cell and control technology) for passenger cars, commercial vehicles, construction, large engines and their integration into the vehicle.

We offer a master thesis:

Anomaly Detection on Test beds

The main goal of this thesis is to develop algorithms to detect anomalies on test beds. In order to monitor the condition of a UUT (unit-under-test) during a durability run the measurement data needs to be analyzed. In this thesis we want to focus on the analysis of one specific durability run on an engine test bed, which consists of periodically repeating cycles. How can we detect anomalies in such cyclic data?

TASK

- Literature research regarding state-of-the-art machine learning algorithms for outlier- and anomaly detection
- Comparison of relevant algorithms and assessment regarding feasibility on the given use case
- Descriptive analysis of the use case and evaluation of the relevant algorithms

STUDY

- Mathematics, Data Science, Computer Science, Mechanical Engineering or similar

REQUIREMENTS

- Enjoy working on „real-world" data
- Basic knowledge on machine learning techniques and/or data analysis
- Basic knowledge on programming (e.g., python)
- In order to have a fruitful cooperation we would like to offer you a seat within our company.

Remuneration: The successful completion of the thesis is remunerated with a one-time fee of EUR 2,600 before tax.

According to the Austrian Employment of Foreign Nationals Act it is unfortunately not possible to assign graduate work to third-country citizens (Non-EU citizens) and Croatian citizens who study at a university abroad.

Contact:
Dr. Christa Simon
Big Data Engineer / DAB Big Data
Tel.: +433167876854
Christa.simon@avl.com
www.avl.com/master-and-phd-thesis