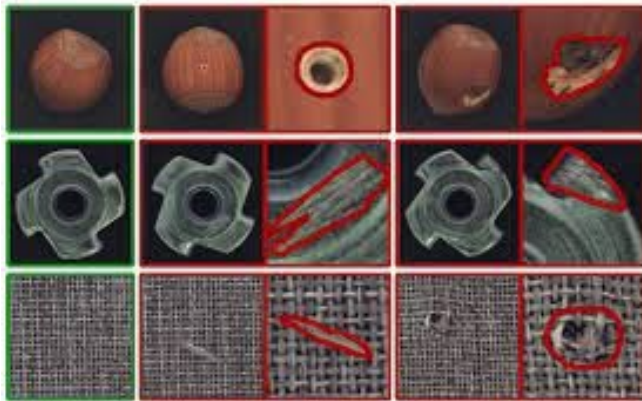# HiWi / WiHi

Deep learning and machine learning methods for Anomaly Detection in industrial image processing

Backgrounds

Anomaly Detection (AD), has received considerable attention in a variety of applications such as computer vision, biometrics, machine learning etc. An anomaly is defined as observations that does not conform to the expected normal behavior. The goal of anomly detection is to identify such anomalies which could represent errors, faud, or other types of unusual events and to highlight them for further investigations.

Source https://www.mvtec.com/company/research/datasets

Job Description

You will be assigned to one of the two research projects, SchauMaL or Bio4Materials. Both projects are settled in the scope of Anomaly Detection (AD) in industrial image domains. As HiWi / WiHi students, you will explore state-of-the-art AD algorithms, perform algorithm optimization, establish data pipeline, etc. The detailed tasks and job scope might be adjusted during the projects.

Required Qualifications

- Strong programming skills (Python, C++, at least one comparable programming language)
- Basic skills in Bash Unix shells
- Deep learning and machine learning fundemantal
- Version control (e.g. Git, GitHub, GitLab)
- Familiarity with libaries such as Pytorch Lightning, Pytorch, Hydra, Numpy, SciPy (preferred)

What We Offer

- The employment is as HiWi/WiHi
- The earliest start for this position is **01.05.2023**
- A longer-term collaboration is desired, and the projects can potentially be extended to a Bachelor's or Master's thesis.
- The regular working hours will be 6 – 15 hours per week with flexible working hours
- Cutting-edge computing environment
- Getting involved in state-of-the-art research topics

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Please send your application via email and includes the following documents
- Short CV
- Transcript of Records
- A short description of your experiences, courses, industry work, internship, project.