Interdisciplinary Project (IPD) of Informatics Master’s Program

Development of an industry-standard software to design worm gears and to model digital twins of worm gears

Location: Garching, Germany
Presence: weekly in-person meetings, working either at home or at institute possible
Teamwork: yes (4-5 persons required)

Your Role
Worm gears are part of a variety of machines and are subject to high loads. To ensure safe operation, worm gears are subject to an extensive design process by their manufacturers. The Institute of Machine Elements puts research efforts into calculating the behavior of worm gears and develops software to support the industrial design and modelling of worm gears. This includes geometrical simulation as well as standardized calculation methods. Within your IDP you will be part of a team to develop such a software from scratch to launch.

Responsibilities
- selection of a suitable architecture for the software
- set-up of a suitable CI-process (preferably based on GitLab)
- development of the modules of the software (preferably in Python)
- implementation of interfaces (UI, other software and machines)
- documentation of the software

In case of questions regarding the subjective of the IDP, please contact Mr. Philipp Roth (roth@fzg.mw.tum.de).

Requirements
- eligible to enroll for an IDP (see https://www.in.tum.de/en/current-students/masters-programs/informatics/interdisciplinary-project/fpo-2012-and-2016/)
- ability to work on larger software projects in a team
- knowledge of methods to develop larger software
- optional: experience with Python
- optional: you already connected with other team members and wish to do the project together
- fluency in German and English

Application
Please send your application to Mr. Philipp Roth (roth@fzg.mw.tum.de) and only include following information:
- short motivation letter (100-150 words)
- short resume with a concise summary of your education and prior professional experience
- your preferred start and end dates
- if you already connected to other team members and wish to do the project together

If your application matches the requirements, we invite you to a personal meeting to discuss the next steps leading to your IDP.