HBO: Mechanical Engineering (4722)

Are you studying Mechanical Engineering or equivalent? Do you want to design improvement and automation of a curl measurement device? We're looking for you!

Your assignment

Paper is, basically, a network of wood fibres. These fibres are hydrophilic and they tend to absorb water from the environment. Also liquid water can easily penetrate the paper sheet because of the hydrophilicity of the fibres. In high-speed inkjet printing systems the ink that is used is mostly water based. Applying this ink on paper leads to media deformation effects like curl formation, buckling and loss of bending stiffness. Under the influence of changes in relative humidity the curl of the paper also changes. In order to quantify development of curl over a longer period of time a prototype measurement device has been built. The first version of this device suffers some shortcomings with respect to accuracy and automation.

- The main aim of this assignment is to improve the available setup and to automate it in such a way that measurements can be performed without human interaction. Main focus in this assignment is on:
- Improving the mechanical design of the measurement setup
- Accurate & low friction carriage guidance
- Easy to use clamping of paper samples
- Implement a motor drive controller to ensure stable speed.
- Implement a PLC-based control to steer the mechanics of the setup and use it to trigger the laser sensor measurement system.
- Some tests to prove the functionality of the device.

Activities

For this assignment you will be part of a team that is working on new functionality for a printer. Your contribution is to help a designer to improve this new function by developing tooling. You will translate the designer’s needs into 3D designs, get parts made with our in-house fabrication department and built the tool. This job will not only improve your 3D design capabilities but also increase the knowledge of design principals, materials and the realisation of parts. You will also gain experience in a dynamic, high-tech, multi-disciplinary design process; observing and participating as colleagues from different disciplines are involved.

Your profile

- Studying Mechanical Engineering or equivalent (Graduation project, BSc-level)
- Looking for an internship that sets an intriguing design challenge
- Interested and experienced in mechanical design
- Able to survey such a project a project and work independently

What's in it for you?

- A challenging assignment with skilled coaching
- Internship/ Graduation fee up to €450,- per month
- Travel cost compensation if you don't have an 'OV-weekcard'
- Good growth opportunities within CPP, thanks to our diversity of disciplines which you will work with
- The possibility to network with professionals at CPP, inside and outside your field of expertise

- We provide all necessary experimental and computer facilities and a stimulating working environment, right at the interface of academic and industrial research.

Interested?

Are you interested in this assignment? Please click on the button 'apply now' at the top on the page where you can upload your resume and motivation letter.

If you would like to receive more information concerning this assignment, please contact Herman Kuypers, tel. +31 (0)77 359 3479 (herman.kuypers@cpp.canon) or Marcel Haenen, tel. +31 (0)77 359 3903 (marcel.haenen@cpp.canon).

If you have any questions about the internship in general, please contact Milou Geelen: milou.geelen.external@cpp.canon.