

# Theses for Bachelor and Master students in the field of electrical engineering and computer science

## Study

## Task Area

The following list gives a rough overview of the topics currently offered at DH electronics.

After selecting a topic, the focus and title of the thesis are determined together with the supervising person.

- ▶ MLOps - DevOps methods in the context of Machine Learning
- ▶ Docker / Kubernetes on embedded systems in industry
- ▶ Evaluation of reinforcement learning in test routines for embedded systems to optimise test times
- ▶ Artificial intelligence (AI), especially deep learning, as a key technology in embedded systems
- ▶ Transformation of embedded systems into IoT systems and IoT cloud solutions
- ▶ Conception and implementation of build and test automation (Gitlab, tbot)
- ▶ Conception, standardisation and implementation of test benches (software and hardware)
- ▶ Development of a test module to supply and measure the switch-on behaviour of a test object
- ▶ Development of a test module as a current/voltage source and sink (SMU) for test engineering
- ▶ Development of a programmable voltage source for test engineering
- ▶ Development of an HMI based on the i.MX8MP CPU
- ▶ Development of intuitive graphical user interfaces or HMIs (Qt, Flutter, .NET)
- ▶ Development of algorithms for stochastic models and digital filters (Matlab, Simulink)
- ▶ Linux for embedded systems based on ARM SOCs (U-Boot Bootloader, Kernel, Devicetree, BSP, Yocto, Debian)

### Not the right jobs for you? Then send us an unsolicited application!

We are always looking for talented developers and junior staff and look forward to your suggestions for topics.

## Profile

- ▶ You are studying electrical engineering, mechatronics, computer science or a comparable field.
- ▶ The willingness to familiarize yourself with new topics characterizes you.
- ▶ Openness, teamwork and communication skills are your strengths.
- ▶ You have a good command of German and English.

## What awaits you with us

Of course, you will receive free fruit and drinks, but above all you can expect exciting and varied tasks.

- ▶ DH electronics was once again named a kununu Top Company in 2024, making it one of the best employers.
- ▶ Thanks to flexitime without core hours, you can organize your working day freely as long as you meet deadlines.
- ▶ Your new colleagues will support you during your induction and help you settle into the Digital Heroes team.
- ▶ Innovation is our passion: that's why we have been recognized as a TOP 100 Innovator twice in a row.