

# JEPPE HINRICHS

Copenhagen, Denmark

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## 📁 Employment History

2024 – now	<b>Firmware Engineer</b> , Research & Development, Sensata Technologies
2021 – 2023	<b>Graduate Researcher</b> , Brain/Biomedical Microsystems Laboratory
2015 – 2017	<b>Electrical Engineer</b> , Development & Engineering, Welltec
2014 – 2015	<b>Intern</b> , Development & Engineering, Welltec

## 🎓 Education

2021 – 2023	<b>Master of Science in Electrical Engineering</b> , Korea Advanced Institute of Science & Technology
2021 – 2023	<b>Master of Science in Electrical Engineering</b> , Technical University of Denmark
2020	<b>Research Student (Exchange)</b> , Tokyo Institute of Technology
2018 – 2020	<b>Bachelor of Electrical Engineering</b> , Technical University of Denmark
2013 – 2015	<b>Associate in IT-Technology</b> , Aarhus Business Academy

## ☰ Selected Projects

2024	<b>18 - Cell Monitoring Unit</b>   C++, ISO26262, Functional Safety <ul style="list-style-type: none"><li>– Platform development of hardware/software device driver for new peripheral IC</li><li>– Implementation of functional safety mechanisms and unit-testing</li><li>– Using static code analysis in Klocwork and CTC++ to ensure defensive programming paradigm is met</li></ul>
2024	<b>Temperature sensor characterization and optimization</b>   C++, Binary Search Algorithm <ul style="list-style-type: none"><li>– Led investigation of performance and accuracy of Steinhart-Hart model on Arm Cortex®-R4 MCU</li><li>– Implemented optimized temperature calculation algorithm with binary search and interpolation on LUT</li><li>– Computational overhead metrics on target decreased by &gt;50% using improved algorithm</li></ul>
2023	<b>Master Thesis</b>   LTspice, Altium Designer, MATLAB, Xilinx Vivado, Python <ul style="list-style-type: none"><li>– Title: <i>Portable ultrasound system for blood velocity estimation</i></li><li>– Analysed research in devices for estimating the velocity of blood</li><li>– Designed system architecture of portable pulsed-wave Doppler ultrasound imaging device</li><li>– Implemented Zynq 7000 FPGA bitstream for ultrasound pulser control system</li><li>– Synthesised Arm Cortex®-A9 based DSP with Fourier analysis</li></ul>
2020	<b>Bachelor Thesis</b>   LTspice, Altium Designer, MATLAB, Simulink <ul style="list-style-type: none"><li>– Title: <i>Influence of the output filter parasitic elements on a switch-mode audio amplifier</i></li><li>– Led a study into hitherto unexplored control theory of parasitic elements in electronic components</li><li>– Simulated and synthesized AIM class-D amplifier design</li><li>– Devised proposal of compensation strategy to improve control loops affected by parasitic elements</li></ul>
2017	<b>Well Depth Acquisition</b>   C++, Fusion 360, OrCAD <ul style="list-style-type: none"><li>– Project lead on solution to enable universal telemetry capability during intervention and logging</li><li>– Implemented mission-critical master and multi-slave half-duplex communications bus over RS485</li></ul>

## ★ Skills

Languages	🇦🇩 Danish, English, German, Japanese, Korean
Coding	🔗 C/C++, Python, Bash, LabVIEW, Assembly, Make
CAE/CAD	🔗 Altium Designer, KiCAD, OrCAD, LTspice, Qspice, Simulink, Fusion 360
Technologies	➤ Linux, Git, RTOS, Xilinx Vivado, MATLAB, NI-DAQ
Misc.	👤 Academic research, teaching, training, microcontrollers, computer hardware, exercise, music

## 🏷 Miscellaneous Experience

2023	🏆 <b>Scholarship Award</b> , from Siemens Foundation for research project funding at KAIST in South Korea
2020	🏆 <b>Scholarship Award</b> , from Scandinavia-Sasakawa Foundation for research project at Tokyo Institute of Technology in Japan