

# JEPPE HINRICHS

Copenhagen, Denmark

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## 📁 Employment History

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

## 🎓 Education

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

## ☰ Selected Projects

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- 2024      **Temperature sensor characterization and optimization** | C++  
– Conducted investigation of computational overhead and accuracy of Steinhart-Hart model  
– Implemented optimized temperature calculation algorithm with binary search and linear interpolation  
– Performance metrics on target increased by >60% using improved algorithm compared to baseline
- 2023      **Master Thesis** | LTspice, Altium Designer, MATLAB, Xilinx Vivado, Python  
– Title: *Portable ultrasound system for blood velocity estimation*  
– Analysed research in devices for estimating the velocity of blood  
– Designed system architecture of portable pulsed-wave Doppler ultrasound imaging device  
– Implemented Zynq 7000 FPGA bitstream for ultrasound pulser control system  
– Implemented MCU/FPGA interconnects and registers  
– Synthesised ARM Cortex®-A9 based DSP with Fourier analysis
- 2020      **Bachelor Thesis** | LTspice, Altium Designer, MATLAB, Simulink  
– Title: *Influence of the output filter parasitic elements on a switch-mode audio amplifier*  
– Led a study into hitherto unexplored control theory of parasitic elements in electronic components  
– Simulated and synthesized AIM class-D amplifier design  
– Devised proposal of compensation strategy to improve control loops affected by parasitic elements
- 2017      **Well Depth Acquisition** | C++, Fusion 360, OrCAD  
– Project lead on solution to enable universal telemetry capability during intervention and logging  
– Managed a team of engineers in implementing an integration with existing flagship products  
– Implemented mission-critical master and multi-slave half-duplex communications bus over RS485  
– Conducted field testing in Germany, Netherlands, Malaysia, and the United States

## ★ Skills

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- 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

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