

# JEPPE HINRICHS

Copenhagen, Denmark

☎ (+45) 81403148 ✉ dem16216syh@gmail.com 💻 jeppe-h-1710a6a6 📞 s163555

## 📁 Employment History

- 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

- 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
- 2018 – 2020      **Bachelor of Electrical Engineering**, Technical University of Denmark
- 2013 – 2015      **Associate in IT-Technology**, Aarhus Business Academy

## ☰ Selected Projects

- 2024      **18 - Cell Monitoring Unit** | C++, ISO26262, Functional Safety
- Platform development of hardware/software device driver for new peripheral IC
  - Implementation of functional safety mechanisms and unit-testing
  - Using static code analysis in Klocwork and CTC++ to ensure defensive programming paradigm is met
- 2024      **Temperature sensor characterization and optimization** | C++, Binary Search Algorithm
- Led investigation of performance and accuracy of Steinhart-Hart model on Arm Cortex®-R4 MCU
  - Implemented optimized temperature calculation algorithm with binary search and interpolation on LUT
  - Computational overhead metrics on target decreased by >50% using improved algorithm
- 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
  - 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
  - Implemented mission-critical master and multi-slave half-duplex communications bus over RS485

## ★ 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      🏆 **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