Jeppe Hinrichs

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Employment History

2024 – now	**Electrical 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, Japan
2018 – 2020	**Bachelor of Electrical Engineering,** Technical University of Denmark

Selected Projects

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
– Designed and synthesised HV protection T/R swiching multiplex circuit
– Built and assembled analog RF front-end and quadrature demodulation circuits
– Validated complex network parameters of RF circuitry with network analyzer and frequency response analyzer

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
– Performed state-of-the-art modeling of control loop using current injection transformers
– Synthesised A.I.M. Class-D audio amplifier and parametised testing methodology
– 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
– Engineered CAD models of hardware prototype and panel casing
– Conducted field testing in Germany, Netherlands, Malaysia, and the United States

2016 **Flex Well E** | LabVIEW
– Project lead of a testing solution to analyse effects of vertical shifts of high-power transformers in completions
– Implemented an actuation platform with motor control system using variable speed drives
– Designed automatic data collection and system modeling with NI-cDAQ and LabVIEW
– Assembled a hardware testing control panel with built-in HV protection circuits and safety mechanisms

Skills

Languages Danish, English, German, Japanese, Korean

Skills (continued)

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