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> whoami

Dr.-Ing. Dennis Clausen

Software architect & engineering leader

[ARCHITECTURE] [LEADERSHIP] [SIGNAL PROCESSING]



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01 / PROFILE

> profile.summary

I work on complex software-intensive systems, with a foundation in digital signal processing. My path connects doctoral research in optical communications with software development, architecture and leadership in hydroacoustic engineering.

02 / ARCHITECTURE & ENGINEERING EXPERTISE

> capabilities.list

SE	**Software engineering**	From algorithms and simulations to industrial C++ software.
SA	**Software architecture**	Architecture alongside practical software development.
DSP	**Signal processing**	A technical thread between optical research and hydroacoustic engineering.
LEAD	**Engineering leadership**	Progression from engineering and architecture into team and group leadership.

CORE // C++ C MATLAB
LANGUAGES // German English

03 / PROFESSIONAL EXPERIENCE

> leadership.log

ELAC SONAR GmbH

CURRENT

Group Leader Software Engineering – Processing Aug 2024–Present

Group leadership for processing software, alongside experience in software architecture and team leadership at ELAC SONAR.

Team Leader Software Engineering Oct 2021–Mar 2025

Team leadership in software engineering, building on earlier architecture and development work in hydroacoustic systems.

Senior Software-Architect/Engineer Dec 2020–Oct 2021

Software architecture alongside hands-on engineering, continuing the transition from signal-processing development into architecture.

NOTE // Overlapping positions are retained as recorded; dates are not a sequence of mutually exclusive appointments.

PROFESSIONAL EXPERIENCE

ENGINEERING + RESEARCH

04 / PROFESSIONAL EXPERIENCE

> engineering.log

Wärtsilä ELAC Nautik GmbH

ENGINEERING

Senior Software-Engineer / Software-Architect — May 2020–Dec 2020

Combined software engineering and software architecture in the hydroacoustic development environment at ELAC Nautik.

Software-Engineer — Jul 2019–Dec 2020

Worked on software in a hydroacoustic engineering environment, following the earlier C++ signal-processing assignment.

Development Engineer (assignment through Modis) — Feb 2018–Dec 2018

Developed and improved digital signal processing software in C++ during an R&D assignment through Modis.

Raytheon Anschütz GmbH

SOFTWARE

Software Developer — Mar 2019–Jun 2019

Developed IT security software for integrated navigation systems, working with C++ authentication, authorization and accounting algorithms and an LDAP architecture based on SAMBA.

Modis GmbH

DEVELOPMENT

Software Engineer — Jan 2019–Feb 2019

Software development at Modis, between the separately recorded ELAC Nautik assignment and Raytheon Anschütz role.

Christian-Albrechts-Universität zu Kiel

RESEARCH

Doctoral Research Assistant / Research Fellow — Jul 2012–Mar 2019

Researched adaptive digital signal processing for flexible optical networks, combining algorithm development and simulations in Matlab, C and C++ with experimental evaluation in a fiber-optic laboratory.

Student Research Assistant — Jan 2012–Jun 2012

Continued the optical communications research from my diploma thesis and worked towards publishing the findings, bridging degree work and further academic research.

EDUCATION & EVIDENCE

DEGREES + CREDENTIALS

05 / EDUCATION & DOCTORAL RESEARCH

> education.records

Dr.-Ing. (Doctor of Engineering)

MAGNA CUM LAUDE

Christian-Albrechts-Universität zu Kiel

Oral examination: 8 Sep 2020 / Degree certificate: 19 Feb 2021

THESIS /

Experimentelle Untersuchung adaptiver flexibler digitaler Signalverarbeitung für hybride Modulationsformate

Research on adaptive data rates in coherent optical WDM networks, focusing on hybrid modulation and the digital signal processing required to evaluate it in simulation and laboratory experiments.

> READ DISSERTATION / KIEL UNIVERSITY MACAU

Dipl.-Wirtsch.-Ing. (Industrial Engineering)

2005–2011

Christian-Albrechts-Universität zu Kiel

Oct 2005–Dec 2011

THESIS /

Untersuchung und Anpassung der Zugangstechnik DMT auf den optischen Zugangsbereich

Examines whether Discrete Multitone (DMT) algorithms from copper-based DSL can be adapted to optical PON / FTTH access networks, combining OFDM theory, simulation and direct-detection laboratory experiments.

06 / CERTIFICATION

> credential.verify

iSAQB Software Architecture – Foundation Level

CPSA-F

Certified through iSQI / 7 May 2020

> VERIFIED ISQI CREDENTIAL

07 / SELECTED PUBLIC ENGINEERING PROJECT

> projects.public

ACTRESS — Cooperative Shipping and Navigation on Sea

MY INVOLVEMENT: FEB 2019 – JUN 2019

Developed IT security software for integrated navigation systems, working with C++ authentication, authorization and accounting algorithms and an LDAP architecture based on SAMBA.

Programme objective: architectures and testbeds for safety- and security-aware connected maritime systems. This objective is distinct from my personal contribution.

> PROGRAMME CONTEXT / DLR

08 / QUALITY & INFORMATION SECURITY

> assurance.record

Software development work has successfully undergone multiple audits against ISO 9001 and ISO/IEC 27001 requirements.

Audited development work; not personal ISO certification or auditor status.