Curriculum Vitae

Last name	Nerhus
First name	Erik
Nationality	Norwegian
Employer	HMH
Current position	Senior Software Service Engineer

Summary

An MSc-educated engineer with background in both marine and oil & gas industries. Specialized in commissioning, developing, and enhancing control systems, with a track record in contributions to software product launches, including DEAL™, CADS, Early Kick Detection, Soft Torque Z, and Driller's Assist for offshore drilling and also leading the development of Ride Control Systems and Boarding Control Systems for marine applications. Skilled in operational follow-up, crew training, and delivering swift troubleshooting and corrective actions during critical system failures.

At MHWirth, I have been active in advancing drilling automation technology, collaborating with cross-functional teams, customers, and class societies. My tenure at ESNA AS as a Control System Engineer involved full-stack software development for next-generation Surface Effect Ships (SES), integrating cutting-edge technology, and ensuring remote system security.

My early roles at Aker Solutions as a Software Service Engineer and Test Engineer laid the foundation for my expertise, with notable contributions to the commissioning of offshore drilling equipment with a significant reduction in software errors that was delivered to the offshore installation team.

Formal Education

Examination year	
2008	Automation, Kvadraturen High School, Norway
2012	Bachelor of Science – Mechatronics (Specialization, robotics and control systems), University of Agder, Norway
2023	Master of Science – Industrial economics and technology management, University of Agder, Norway

Experience

Jun 2022 –
HMH

Senior Software Service Engineer
High focus on commissioning of the latest software products knows as ADC (Automatic Drilling Control) including:

- DEAL
- Early Kick Detection
- BeAware
- CADS
- Soft Torque Z
- Drillers Assist

Follow up drilling units in operation in combination with crew training. Troubleshooting and corrective actions when downtime and critical system failure occurs.

Software Lead during installation and commissioning of new DCMS system on Grane.

Participation in several large SPS and IBW work scopes.

Mar 2019 - Jun 2020
MHWirth

Senior Software Engineer
In my role as a Senior Software Engineer on the Automatic Drilling Control (ADC) team, I played a role in advancing the frontier of drilling automation through the development and enhancement of sophisticated software systems. My expertise contributed to the design, test and implementation of several key innovations:

- DEAL™: A drilling machine control API that serves as the gateway to drilling automation. DEAL™ enables the incorporation of intelligent modules into the existing machine control systems, streamlining operations and facilitating smart drilling without the need for extensive modifications.

- Driller's Assist™: Developed and refined this module to provide robust support to drillers by protecting the well during drilling operations. The system

is engineered to enhance drilling safety and assist in the execution of precise and repeatable drilling tasks.

- CADS 2.0™ (Computer Assisted Drilling System): Participated in the evolution of this computer-assisted drilling system, which automates the drilling process, thereby setting a new benchmark for accuracy, repeatability, and control in drilling operations.

- Soft Torque - Z: Innovated solutions to mitigate stick-slip disturbances, significantly reducing drillbit wear and tear, improving the rate of penetration and efficiency of drilling activities.

Throughout this project, I collaborated with cross-functional teams, including software engineers, drilling experts, class societies and product managers, to deliver software solutions that surpassed industry standards for automation, safety, and operational efficiency.

Mar 2016 – Jun 2019
ESNA AS

Control System Engineer
ESNA is an independent ship design company for high-speed vessels, specialized for air cushioned catamaran/Surface Effect Ships (SES).

Main Activities:
- Development of ship technical control systems.
- Full Stack Software development of next-generation SES (Surface Effect Ship) control systems
- Develop new solutions within control, hydraulic, electrical and mechanical systems and realize them
- Find and use state of the art technology
- Development of purpose build 3d simulator for control systems testing and visualization (Unity3d/C#)
- Create production drawings / 3d modeling (AutoCAD / Inventor)
- Integrate system into a vessel
- Extensive cooperation and contact directly with suppliers and customers
- Prepare schematic drawings / P&ID and calculate the power balances of electrical and hydraulic systems
- Prepare documentation for electrical and mechanical systems for classification societies or governments
- Remote control/access over 4G networks & cyber security

Sep 2014 – Feb 2016
Aker Solutions

Software Service Engineer
During my role as a Software Service Engineer with a focus on the oil & gas industry, I was instrumental in the commissioning of Cat-D drilling rigs for Songa Offshore, in collaboration with Statoil, at the Daewoo Shipbuilding & Marine Engineering (DSME) facility in South Korea. My role demanded a high level of technical expertise and adaptability, providing onshore and offshore support for drilling equipment engineered by Aker Solutions/Aker MH.

Key responsibilities and achievements included:
- Conducting and overseeing the control system installation, commissioning, and fine-tuning of advanced drilling systems to meet rigorous operational standards.
- Performing and leading critical system upgrades and comprehensive overhauls to ensure enhanced performance and longevity of equipment.
- Solid troubleshooting efforts and control system enhancements for MHWirth equipment, optimizing system functionality.
- Engaging in effective communication with customers and third-party vendors to ensure the successful integration and operation of drilling systems.

My commitment to operational excellence was underscored by my active participation in numerous offshore expeditions, delivering high-caliber technical support across the Norwegian continental shelf and in various global locations. These experiences benefitted my ability to operate effectively in diverse and demanding environments, ensuring the highest levels of service and system reliability. And most importantly happy customers.

Mar 2013 – Mar 2014
Norwegian Armed Forces

Mechanical Engineer (mandatory military service)
3D modeling for the Norwegian NAVY, working with Inventor and 3D Studio Max for modeling and animation.
Projects: Equipment for Skjold Class Corvettes, New Logistic Vessel (KNM Maud), Engine upgrade on NAVY frigates, New design of high speed tactical RIB for the special forces.

Jun 2012 – Sep 2014
Aker Solutions

Software Test Engineer
Testing of Control Systems and instrumentation for offshore drilling equipment. Building up internal procedures and test facilities for testing of particularly Roughneck machinery and Cat heads. Resulting in the delivery of machinery with the lowest rate of failure during commissioning from Aker Solutions drilling equipment.