

Mohamed Elwalid Fadul

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TECHNICAL PROFILE

M.Sc. Mechanical Engineering student at NTNU specializing in Robotics and Automation, with hands-on experience developing mechatronic systems from CAD and embedded control through manufacturing, integration and testing. Interested in robotics, industrial automation and subsea/offshore applications.

EDUCATION

Norwegian University of Science and Technology (NTNU) <i>M.Sc. Mechanical Engineering - Robotics and Automation</i> - Full-time integrated master's programme. Main profile in Product Development and Materials; focus on mechanical design, mechatronics, control systems and industrial automation. - Current coursework: Subsea Control Systems (TPK4126, 7.5 ECTS), covering subsea production equipment, hydraulics, pumps and compressors, single- and multiphase flow, slugging, and MATLAB-based modelling, simulation and process-control design.	Trondheim, Norway <i>Aug 2024 - Dec 2027 (expected)</i>
Norwegian University of Science and Technology (NTNU) <i>Petroleum Engineering coursework</i> Full-time programme not completed. Completed 120 ECTS before transitioning to Mechanical Engineering; eight courses were transferred to the current degree.	Trondheim, Norway <i>Aug 2022 - Jul 2024</i>
University of Bergen <i>Mathematics Studies (60 ECTS)</i> Full-time programme not completed. Completed 60 ECTS of undergraduate mathematics studies, strengthening my foundation in modelling, analytical problem solving and engineering mathematics.	Bergen, Norway <i>Aug 2021 - Jul 2022</i>

ENGINEERING PROJECTS

Aorta Compressor Prototype Co-developed an ESP32-controlled medical-device prototype that delivered 45.8 kgf in testing, exceeding the 40 kgf design requirement by 14.5%; contributed wireless actuator control, electronics integration, manufacturing and full-system testing.	Product Development / Mechatronics
Tracked BattleBot Platform Co-developed a competition robot within a 2 kg mass limit; implemented ESP32/PS4 Bluetooth control, PWM differential steering, battery monitoring and motor-control electronics. The team completed approximately 40 CAD iterations and validated a bottom-plate safety factor of about 8.	Mechatronics / CAD / Embedded Control
Self-Balancing Robot Built a two-wheeled robot using IMU angle estimation and PID control; contributed circuit integration, Arduino/ESP32 programming, motor control and iterative stability testing.	Control Systems / Embedded Programming
Industrial Automation and Communication Developed and documented PLC sequences, TCP/IP socket communication, OPC UA control and logging, and MQTT telemetry using OpenPLC, Raspberry Pi, C and Python.	PLC / OPC UA / MQTT
FEM Analysis of a Subsea Pipe Performed analytical fracture-mechanics calculations and finite-element simulations in Abaqus to evaluate stress intensity and failure risk under subsea pressure loading.	Abaqus / Fracture Mechanics

WORK EXPERIENCE

Elkjøp Norge AS <i>Sales Advisor - part-time (20%)</i> Consistently deliver strong sales results; named top monthly seller multiple times and ranked first in store revenue during high-volume promotional days.	Trondheim, Norway <i>Aug 2024 - Present</i>
PSS Securitas <i>Security Guard - part-time (20%)</i> Led security teams at concerts, festivals and venues, coordinating opening and closing, incident logs, staff oversight and communication with police and site management.	Trondheim, Norway <i>Oct 2022 - Oct 2024</i>
McDonald's Norway <i>Crew Member - part-time (20%)</i> Completed assistant shift-leader training and repeatedly supported floor leadership, coordinating crew and service delivery during high-volume shifts.	Bergen, Norway <i>Oct 2017 - Jul 2022</i>

SKILLS & INTERESTS

Mechatronics & Control: PID control, ESP32, Arduino, Raspberry Pi, circuit design, sensors/IMU, motor control
Design & Manufacturing: Fusion 360, CAD, mechanical assemblies, 3D printing, workshop manufacturing, prototyping
Simulation & Software: Abaqus, FEA, MATLAB/Simulink, Python, Pandas, NumPy, Matplotlib, C/C++, Git
Automation & Data: PLC (LD/SFC), Linux, TCP/IP, ROS2, OPC UA, MQTT, Modbus TCP, PyTorch, scikit-learn
Methods: Product development, system integration, testing, technical documentation, SCRUM
Languages: Norwegian (native), Arabic (native), English (highly proficient), Spanish (B2)
Interests: Music production; running and strength training; film and cinematography; reading in engineering, problem-solving, psychology, philosophy and personal finance