

Layth Al-Rawi

Principal Software Engineer

Klagenfurt 9020, Austria | +43 6765 47 9995 | lnalrawi@gmail.com | layth.nalrawi.com

PROFESSIONAL SUMMARY

Principal Software Engineer with 15+ years of experience in the oil & gas and energy sector, specializing in developing and sustaining real-time monitoring systems and web applications. Proven track record of delivering international projects (\$100K–\$400K budgets), and driving measurable operational efficiency improvements. Strong background in software engineering, cloud-based systems, and full stack web development.

KEY STRENGTHS

Real-Time Monitoring Systems • Data Analytics • Web applications • Cloud-Based Systems • Software Architecture • Automation & Control

WORK EXPERIENCE

Principal Engineer – Software and Immersive Technologies

TRS Technology, Parker Wellbore, Aberdeen, United Kingdom

Oct 2018 – Nov 2025

- Designed, developed, and maintained web applications for operational and support teams, including backend services, APIs, and user-facing dashboards used across international sites.
- Designed and implemented real-time systems for operational monitoring, enabling low-latency data ingestion, processing, and visualization for mission-critical field operations.
- Built and deployed a global IoT platform integrating real-time device data streams with web-based analytics and reporting tools to support data-driven decision making.
- Deployed and supported mission-critical real-time systems used in field operations, including troubleshooting live systems and resolving performance and availability issues.
- Architected end-to-end software solutions spanning real-time data acquisition, backend processing, and web application layers.
- Led technical delivery of software systems while remaining hands-on in design, development, and deployment across international projects.
- Ensured data security, compliance, and reliability across web applications and real-time platforms operating in regulated environments.
- Mentored engineers and reviewed code while contributing directly to system architecture and critical implementation tasks.
- Coordinated project execution and budgets (\$100K–\$400K) as part of delivering production-ready web and real-time systems.

Senior Software Engineer

TRS Technology, Nabors Industries, Dubai, UAE

Oct 2014 – Jun 2016

- Developed and implemented software solutions in close collaboration with engineering, operations, and IT teams, contributing directly to codebase and system architecture.
- Engineered digital products end-to-end, translating requirements into detailed technical designs and implementing core functionality in production code.
- Designed, developed, and maintained control, and real-time monitoring software for drilling operations.
- Developed, extended, and maintained backend services and web applications for drilling operations.
- Applied human factors engineering principles directly in software design and implementation, improving usability, safety, and user experience through iterative development and testing.

TRS Technology Engineer - Torque Turn System

Weatherford International, Basra, Iraq

Nov 2008 – Mar 2014

- Developed and maintained control and monitoring software for torque turn systems.
 - Designed system models and simulations to represent operational performance.
 - Provided technical support for field operations and offshore environments.
 - Integrated human factors and usability principles into industrial control systems.
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EDUCATION

Doctor of Science (Ph.D.) in Human Computer Interaction (AR/VR)

Oct 2021 – Mar 2026 (Expected)

Klagenfurt University, Austria

Master of Science (M.Sc.) in Computer Sciences

Oct 2016 – Feb 2019

Cankaya University, Turkey

Bachelor of Science (B.Sc.) in Computer Science

Oct 2004 – Jun 2008

University of Mosul, Iraq

SELECTED CERTIFICATIONS

- Operational Leadership and Financial Acumen (Houston, USA) Jun 2022
 - Project Management for Engineers, ASME (Houston, USA) Nov 2023
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TECHNICAL SKILLS

- **Software Engineering & System Architecture**
 - Design and development of industrial real-time control, monitoring, and simulation systems
 - Software architecture, modular system design, and performance optimization
 - Full software lifecycle: requirements, design, implementation, testing, deployment, and support
 - **Programming Languages & Web Technologies**
 - Delphi, C++, C#, Python, HTML, CSS, JavaScript, Bootstrap, and React
 - Full-stack Web development (front-end and back-end)
 - **IoT, Automation & Cloud Technologies**
 - Industrial IoT platforms, sensor integration, and real-time data acquisition
 - Cloud-based solutions for data ingestion, processing, and visualization
 - Integration of IoT, analytics, and automation to support digital transformation initiatives
 - **Data Analytics & Systems Analysis**
 - Data analysis and reporting using Python and SPSS
 - SQL-based data querying, dashboards, and operational reporting
 - **Human-Computer Interaction (HCI) & UX**
 - UX/UI design for Augmented Reality (AR) and Virtual Reality (VR) applications using Unity
 - Human factors engineering applied to industrial and safety-critical systems
 - Design and execution of user studies, usability testing, surveys, and interviews
 - Evaluation of user performance and interaction principles in 2D and 3D environments
 - **Leadership, Training & Documentation**
 - Technical leadership and mentoring of local and remote engineering teams
 - Development of technical documentation, standards, and best practices
 - Design and delivery of technical training programs for engineers and operators
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LANGUAGE

- Arabic (Native)
 - English (Fluent)
 - Turkish (intermediate)
 - German (Basic / A1 – in progress)
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DRIVING LICENSE

- Austrian Driving license (Class B) valid till March 2036
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