MAJZOOB ALI

CIVIL & STRUCTURAL ENGINEER | OIL & GAS | INDUSTRIAL STRUCTURES

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PROFESSIONAL PROFILE

Civil and Structural Engineer with extended international engineering experience across industrial, oil and gas, building, and infrastructure projects. Currently involved in structural design and verification for oil and gas facilities, including steel support structures, pipe racks, equipment supports, and foundations. Experienced in structural calculations, finite element modelling, code-based checks, technical reporting, and preparation of coordinated 3D models and construction documentation. Holds an MSc in Structural Engineering from the University of Bologna and an MSc in Building Information Modelling (BIM) from the University of Pisa. Combines practical project delivery with multidisciplinary coordination across structural, piping, mechanical, civil, and plant-layout interfaces.

CORE TECHNICAL COMPETENCIES

Structural engineering	Steel and reinforced concrete design; structural analysis; member and connection verification
Oil & gas / industrial	Pipe racks; equipment and vessel supports; industrial platforms; foundations; operational loading
Analysis & verification	FEA; load combinations; fatigue checks; structural integrity; soil–structure interaction
Codes & standards	Eurocodes EN 1990–1998; NTC 2018; ACI 318/350; AISC; BS 8110/5950
Engineering deliverables	Calculation reports; technical specifications; design drawings; shop/fabrication packages
Coordination & delivery	Piping, mechanical, civil and plant-layout interfaces; BIM coordination; site support
Software	SAP2000; ETABS; Midas Gen/Civil; CSI Bridge; SAFE; Revit; Tekla Structures; AutoCAD; Navisworks

PROFESSIONAL EXPERIENCE

Civil & Structural Engineer | Union Technic S.r.l. *Cecina, Italy | Jun 2024 – Present*

- Design and analyses structural components and support frameworks for oil and gas facilities, applying relevant Eurocode, BS, and ACI provisions to industrial loading conditions.
- Perform structural integrity and fatigue checks for pressure-vessel supports, pipe racks, and equipment foundations under operational and environmental actions.
- Develop and optimize steelwork and reinforced-concrete solutions in coordination with process, piping, and civil engineering teams.
- Prepare structural models, 3D models, detail drawings, and fabrication packages using structural analysis and BIM/CAD tools, supporting coordinated project delivery.

Civil & Structural Engineer | Smart Engineering S.r.l. *Pisa, Italy | Apr 2023 – Jun 2024*

- Designed and assessed prestressed-concrete and steel–concrete composite structures for highway bridges and viaducts, including rehabilitation interventions.
- Performed static safety verifications, nonlinear pushover analyses, and seismic vulnerability assessments in accordance with NTC 2018 and Eurocode 8.
- Conducted field condition assessments and developed maintenance, strengthening, and rehabilitation strategies for existing infrastructure.
- Prepared calculation reports, design packages, and construction drawings for clients and regulatory submissions using Midas Civil, CSI Bridge, SAP2000, and SAFE.

Structural Engineer | Bait Alkaram Co. Ltd. *Khartoum, Sudan | Jun 2022 – Apr 2023*

- Led structural design and construction oversight for commercial and residential projects, monitoring technical quality, programme, and budget.
- Produced structural calculations and coordinated shop drawings and design revisions with contractors and subcontractors using ETABS, SAP2000, Tekla, and AutoCAD.

- Resolved a soil–structure interaction issue through redesign of a reinforced-concrete foundation system to address differential-settlement risk.

Civil Engineer | Elkhandagawi for Contracting & Construction *Khartoum, Sudan | Jan 2015 – Jun 2017*

- Supported construction delivery through field surveys, QA/QC inspections, design-conformity checks, and coordination with architects, engineers, and contractors.
- Contributed to constructible design development, cost estimates, tender documentation, technical specifications, and Bills of Quantities.
- Applied Revit- and AutoCAD-based value-engineering workflows contributed to a reported 2% reduction in project construction cost.

Facilities Engineering Trainee | Ram Energy Co. Ltd. *Sudan | Feb 2014 – Jun 2014*

- Participated in the design and construction of oil field surface facilities for Oil and Gas Projects.
- Compiled and analyzed data to optimize construction schedules.
- Collaborated with engineers and contractors to ensure the quality of work

SELECTED RELEVANT PROJECT

Oil & Gas Structural Package | Union Technic

- Designed primary and secondary structural steelwork for an industrial facility, including member sizing and connection-detail optimization, with attention to code compliance, constructability, and cost. Coordinated project with other Disciplines HVAC and Firefighting.

EDUCATION

MSc, Building Information Modelling (BIM) | *Nov 2025*
Università di Pisa, Italy
Focus: Revit-based structural/MEP coordination, Navisworks clash detection, LOD specifications, and digital delivery.

MSc, Structural Engineering | *Mar 2022*
Alma Mater Studiorum – Università di Bologna, Italy
Top of class in Advanced Structural Mechanics. Thesis: Static Structural Health Monitoring Analysis of Four Case Studies and Lessons Learned.

BSc, Civil Engineering | *Dec 2014*
Alzaiem Alazhari University, Sudan
Thesis: Estimated Useful Life Span of Reinforced Concrete Structures: Problems and Solutions; nominated for the Sudan National Science Creativeness Prize.

LICENCES & PROFESSIONAL MEMBERSHIPS

- Registered Professional Engineer, Sudan Engineering Council (Mar 2022).
- Graduate Member (GMICE), Institution of Civil Engineers (ICE);
- Graduate Member (GIStructE), Institution of Structural Engineers.
- Google Project Management Professional Certificate, Coursera (Jun 2022).

LANGUAGES

Arabic (Native) | **English** (C1 / Professional proficiency) | **Italian** (Working proficiency)