

RAIHAN AMMAR DANY

OFFSHORE ENGINEERING UNDERGRADUATE | STRUCTURAL ANALYSIS | ENGINEERING AUTOMATION

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PROFILE

Offshore Engineering undergraduate at Institut Teknologi Sepuluh Nopember (ITS) with a strong interest in offshore structures, structural analysis, and engineering problem-solving. Experienced in structural modelling, hand calculations, numerical analysis, result verification, and automation workflows that support repeatable technical work. Interested in strengthening theoretical and practical structural engineering skills through laboratory activities and collaborative learning.

EDUCATION

Institut Teknologi Sepuluh Nopember (ITS)

Undergraduate Student in Offshore Engineering, Department of Ocean Engineering | Surabaya, Indonesia

Aug. 2024 - Present

EXPERIENCE

Well & Drilling Staff | Oil Rig Offshore Competition

Present

Institut Teknologi Sepuluh Nopember (ITS)

- Contribute to the Well & Drilling division, focusing on drilling equipment selection and technical evaluation for the proposed offshore drilling system.
- Support well trajectory development by reviewing geometric and operational considerations, and coordinate with other engineering divisions to align drilling requirements with the overall facility design.

Independent Engineering & Automation Developer

2026 - Present

- Develop engineering-oriented tools and reusable Python workflows for technical calculations, data processing, solver execution, result extraction, validation, and structured reporting.
- Built a P&ID line-register extraction workflow to locate and transcribe piping identifiers from engineering drawings, using benchmark metrics and validation gates to reduce repetitive manual data entry.

PROJECTS

Parametric Offshore Jacket Structural Analysis

ANSYS MAPDL | Python

- Developed a parametric 3D offshore jacket model using beam elements to study response under self-weight, deck loading, and representative lateral environmental loads.
- Evaluated displacement, axial force, bending response, stress, and structural utilization; compared numerical outputs with simplified hand-calculation benchmarks and automated the model-to-report workflow.

Floating Offshore Structure Simulation

ANSYS AQWA

- Modelled a SPAR-type floating offshore structure as a learning project to study hydrostatic equilibrium, wave-induced heave and pitch response, mooring behaviour, solver warnings, and key modelling assumptions.

OC4 Jacket Model Reproduction Study

OpenFAST | SubDyn

- Reproduced a reference jacket model as a learning study to understand structural topology, member definition, input-data transfer, and verification of numerical model inputs.

P&ID Line Register Automation

Python | Engineering Automation

- Developed and benchmarked a workflow for locating and transcribing piping identifiers from P&ID drawings, emphasizing traceability, validation, and controlled acceptance before automated output.

LEADERSHIP & ACTIVITIES

Vice President | Vidatra Media Source (VMS)

Nov. 2022 - Jul. 2023

- Coordinated media and documentation activities and supported member development in photography, videography, and event documentation.

Chairman | Ikatan Remaja Masjid (IRMA)

Mar. 2023 - Jan. 2024

- Coordinated programmes, team responsibilities, community activities, and external communication.

TECHNICAL SKILLS

Engineering: Offshore structures, structural modelling, structural analysis fundamentals, hydrodynamic loading, engineering result verification

Engineering Tools: ANSYS MAPDL, PyMAPDL, ANSYS AQWA, OpenFAST, AutoCAD, Maxsurf, Microsoft Excel

Programming & Automation: Python, engineering data processing, workflow automation, result validation, data visualization, automated technical reporting