**Jonathan Ezeugo**

**Houston TX**

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**Interdisciplinary Engineer**

Versatile, solutions-driven professional with vast oil and gas industry experience. A Mechanical Engineer, savvy in complex engineering practices, interdisciplinary product, process and systems design, engineering, analyses and integration, with sound application of industry safety and quality specifications, with process hazard analyses. Possess advanced adaptive capacity to apply technical and soft skills in creating functional systems that make energy safer, cleaner and more efficient.

**Demonstrated Competencies**

* Control Systems Engineering
* Pipeline & Riser Engineering
* Excellent Interpersonal and Communication skills
* Data Analytics
* Reservoir/Subsurface Development
* FEA and CFD analysis
* Model-based Design
* HSSE Leadership
* Technical Compliance
* Quality Assurance and Integrity
* Technical Reporting and Presentation

**Professional Details and Accomplishments**

**Rice university data analytics bootcamp,** Houston TX **October 2020 – Present**

**Data Scientist (Bootcamp Student)**

Develop practical and technical skills in data modeling, analytics and visualization. Specialty areas include:

* Fundamental Statistics – Modelling, Forecasting.
* Python Programming – Python 3, Numpy, Pandas, Matplotlib, API Interactions, Webpage mining.
* Database Engineering and Analytics – PostgreSQL, MongoDB, Machine Learning and Business Intelligence with Tableau.

**Patterson-UTI,** Houston TX **January 2019 – May 2020**

**Wellbore Positioning Specialist**

Utilized cloud computing, Fault Detection, Isolation and Recovery (FDIR) technology, data analytics tools and machine learning algorithms to establish optimal positional certainty of wellbore in reservoir, historically, in real-time and planned. Ensured most accurate well-to-well spacing through EOU shrinking, collision risk analysis and mitigation, helping E&P companies optimize asset development, reservoir productivity and actionable decision making, from onshore to deepwater.

* Optimized wellbore positional certainty for 28 E&P companies on 112 rigs via real-time surveillance of 58 onshore and offshore drilling projects, contributing to achieving annual revenue goal in first two quarters of 2019.

**Cullen college of engineering, university of houston**,Houston TX **January 2017 – May 2018**

**Mechanical / Subsea Engineer (Graduate Student)**

* **Control Systems Engineering and Integration:** Focused on Subsea Systems instrumentation and control design, reduced-order modelling and dynamic analysis in MATLAB environment for pipelines, pumps, valves and electric motors, for process control, automation, safety shutdown, condition & performance monitoring. Analyzed P&IDs for optimal subsea production.
  + Developed subsea architecture using Matlab/Simscape and designed a proportional/integral feedback controller for choke valves stabilizing manifold pressures from multiple multi-phase inflows in a production pipeline system.
* **Subsea Pipeline & Riser Design:** Focused on key design challenges – Deepwater (up to 10,000ft WD, hydrostatic collapse & installation/operation issues), HPHT (15 to 22 ksi pressures, high thermal performance: 350°F - 400°F), thermal management (huge axial loads, mitigation methods, FEA), Corrosion (NACE specs), Flow Assurance (wax, hydrates, asphaltenes, multiphase flow, blockages) and Cryogenic Pipelines (LNG/LPG, thermal efficiency, exotic materials)
* **Subsea Processing and Flow Assurance**: Delved into reservoir modelling, reservoir drive mechanisms and EOR techniques, gas/liquid processing and separator design, pumps design and application, piping, compressors, seawater injection, production enhancement and artificial lift. Conducted field lifecycle nodal analysis, established field development strategy for hydrate, wax, asphaltene and slugging management, chemical injection and thermal system design, using PIPESIM.
  + Designed a subsea vertical two-phase Separator and supporting infrastructure. Sized wall thickness, ID, vessel height, liquid handling levels and boosting schemes, pump sizing, oil and gas flowline sizing and power system configuration.
* **Subsea Systems Design and Engineering**: Using the complex challenges of deepwater environment as backdrop, designed, per code requirements, a functional subsea oil and gas production field – designed each constituent component and integrated them to deliver safety-critical operations, using Solidworks, Abaqus, MathCAD, and other software tools.
  + Designed and pressure-tested (1.25 x MAOP) entire subsea production pipeline and riser in 10,000ft of water, for certification and integration with other subsea hardware. Considered three Flowline Maximum Allowable Operating Pressure (MAOP) case studies: 8 ksi, 9.5 ksi and 13.2 ksi. Used seawater as test fluid. Calculations on MathCAD.
* **Computational Methods and Design of Experiments:** Delved into three domains of formulation and applications – Finite Element Analysis (FEA), Computational Fluid Dynamics (CFD) and Design of Experiments, for engineering analysis.
  + Conducted CFD erosion-based analysis, with Star CCM+, on a 3D subsea pipeline system.
  + Performed FEA analysis on bolted flange assembly, developed and analysed the model using Abaqus, to meet Von Mises stress and Specified Minimum Yield Strength (SMYS) criterion at low and high pressures, under designated pre-loads.

**Halliburton**,Houston TX **August 2010 – May 2016**

**Field Drilling Engineer** (Drilling Optimization, Well Construction, Directional Drilling)

Forged productive relationships with vested stakeholders, critical to safely and profitably deliver reservoir development projects, organized teams around using cutting-edge technology, risks identification and mitigation, best engineering practices and an array of software tools including Compass, INSITE and WellPlan, to plan 2D and 3D wells, optimize wellbore placement and maximize conventional and unconventional hydrocarbon recovery. Expert on rotary steerable and positive displacement tools.

* Set and executed strategy which improved on 27-day project drilling-the-limit (DTL) schedule by average of 6 days for each project, saving over $720,000 each project, resulting in best 2-quarter performances in single year for major project parties.
* Routinely drafted hydraulic regime that enhanced hole cleaning and flow assurance, while powering downhole drilling tools.
* Successfully resolved challenges inherent with HPHT wells, managed pressure drilling (MPD), and underbalanced drilling.
* Led magnetic ranging operations team which resuscitated subsurface abandoned wells, reviving revenue source.

**Schlumberger / WOG**,Nigeria **January 2002 – April 2010**

**Drilling Engineer** (Drilling and Measurements)

Delivered drilling engineering solutions to E&P clientele to optimize drilling projects - conduct torque and drag (T&D), vibration, buckling and wellbore hydraulics analyses, construct/plan directional wells, and perform anti-collision analysis. Provided daily engineering support and detailed engineering data analysis using DrillingOffice, Compass and WellPlan to enhance key performance metrics – Wellbore Surveys, ECD, Swab/Surge, cement bond, fluid displacements, BOP testing, LOT/FIT, etc.

* Improved project cycle time by 5 days through equipment and well design optimization, and QHSE leadership, on a Chevron offshore drilling campaign (Chevron JV including OML 90), with 3 MODUs ($350K+/day each).

**Directional Drilling Engineer**

Diligently managed onsite drilling projects, onshore and offshore, through deft resource utilization and proactive planning. Exhibited keen ability to utilize survey orientation, formation and geologic data to efficiently situate wellbore in target reservoir. Designed drilling assembly for diverse profiles - S, J, deviated and horizontal wells, to boost rate of penetration (ROP) and mitigate stuck pipes. Delivered projects in excess of $18 million (USD).

* Demonstrated analytical mindset that exploited systems engineering approach to resolve technical challenges.
* Utilized DrillingOffice and Landmark EDT for survey data management, drill string modelling and report generation.
* Effectuated dogleg severity profiles that ensured successful casing and completions operations, through data-driven drilling.
* Delivered projects via apt logistics & budgetary control, close process monitoring, and strong HSSE leadership.

**Measurement/Logging While Drilling (M/LWD) Engineer (**Drilling and Measurements**)**

Guaranteed accurate wellbore orientation data in real-time for trajectory control and wellpath navigation, acoustic data for hole caliper measurements, pore-pressure, neutron-porosity, resistivity, density and gamma ray data for real-time and historical formation evaluation, reservoir imaging and drilling performance analysis, through use of special, cutting-edge, downhole tools.

* Built capacity in product development, testing, maintenance, calibration, and service delivery in challenging environments.
* Managed and optimized drilling hydraulics, magnetic spacing and sensor calibration, as part of quality assurance culture.
* Monitored downhole shock and vibration measurements to help mitigate stick/slip, lateral resonance, whirl, and tool failure.
* Mentored and coached new hires to meet rigorous performance requirements in a timely manner.

**Education**

**In-view,** Certificate in Data Analytics and Visualization, Rice University, Houston TX

**MSc**, Mechanical/Subsea Engineering, University of Houston, Cullen College of Engineering, Houston TX

**MEng**, Mechanical (Industrial/Production) Engineering, Federal University of Technology Owerri (FUTO), Nigeria

**BEng**, Mechanical Engineering, Federal University of Technology Owerri (FUTO), Nigeria

**Software Skills**

Solidworks | PIPESIM | Star CCM+ | Abaqus CAE | Python | MATLAB | MathCAD | Microsoft Suite.