

Curriculum vitae of Dr. Kalyanaraman Venugopal

2734 Quarry Hill Rd,
Sugar Land, TX, 77478, USA
Cell phone: +1 832 540 0618
Email: kalyan100673@gmail.com



Statement

Highly motivated individual who is passionate about smart use of data for business analytics and oil and gas applications. Experienced manager with 27 years of international oil and gas experience, expertise in the latest data analytics, and machine learning tools and techniques. Strong track record of successfully managing multi-skilled teams and excellent presentation skills.

Key non-technical strengths

- Client relations (Service Quality, Opportunity management & Business development, Client relations management)
- Problem Solving
- People management (Building and Retaining talent, Training & Development, Performance management, Managing Multi-disciplinary teams)
- Leadership skills (Providing direction, Building teams, Coaching and Mentoring, Effective delegation, People development)
- Business finance (PnL management, DSO management, Activity forecasting, Cost control)
- Communication skills (Active listening, Oral & Written communication in English, Presentation)
- Personal effectiveness (Achievement focus, Drive & Motivation, Self Confidence, Learning Agility)

Key technical strengths

- Data Analytics (Data wrangling, Supervised and Unsupervised Machine Learning, Deep Learning, Natural Language Processing, Time Series Analysis and Graph Data Science).
- Project Management (hold a valid PMP certification).
- Remote training design and delivery using appropriate instructional design principles, online platforms such as WebEx, Teams and Zoom and Schlumberger's cloud-based E&P software platform DELFI.
- Designing and delivering customized training and competency development programs; Innovative and adaptive training solutions to accelerate capability development.
- Unconventional Resources (Shale Gas & Oil) training program design and delivery, including competency management and mentoring.
- Measurements / Logging While Drilling (LWD) and Directional Drilling operations in both onshore and offshore environments including deepwater and HPHT operations.
- Formation Evaluation using LWD services and Wireline logs.
- Real time drilling optimization using LWD and surface measurements
- One dimensional Geomechanical modeling for wellbore stability analysis, sanding production prediction and fracture design.
- Good overall understanding of upstream oil and gas activities from seismic to production including, well construction activities and excellent understanding of planning and drilling of deviated / horizontal wells using appropriate LWD based well placement techniques and drilling technologies such as Rotary Steerable Systems.
- Good understanding of Seismic to Simulation workflows and software tools for sub surface projects such as full field review studies & reservoir characterization studies
- Managing multidisciplinary teams to execute various types of small and big size projects in the areas of Real time services (Pore Pressure Monitoring, Geomechanics, Geosteering), Reservoir characterization studies, Production Enhancement studies, Full field review and Field Development Plan studies
- Implementing HSE and Quality standards, ensuring compliance through inspection and auditing & formulating work processes / procedures to improve service delivery efficiency.

Professional Experience

Research Scientist- Associate

University of Wyoming, Laramie, WY

Aug 2022 - present

Key Responsibilities:

- Conduct technical work in the area of data driven modeling based to support research projects related to oil and gas regulations, health, safety, environmental and other relevant topics.
- Assist concept development and proposal preparation for new projects.

Researcher- Petroleum Engineering

University of North Dakota, Grand Forks, ND

Feb 2022 – Aug 2022

Key Responsibilities:

- Conduct technical work in the area of data driven modeling based to support research projects related to oil and gas regulations, health, safety, environmental and other relevant topics.
- Assist concept development and proposal preparation for new projects.

Successfully supported in developing grant proposals for

- NSF small project proposal to design a knowledge representation framework combining Open Knowledge Networks (OKN) and Case-based Reasoning (CBR) for effective decision making in the oil and gas regulatory system with an initial focus on permit authorization for drilling operations.
- U.S. DOT/PHMSA- Pipeline Safety Research Competitive Academic Agreement Program (CAAP) proposal titled 'A Hybrid Model to Estimate Potential Impact Radius (PIR) for CO2 Pipelines
- Teaching Activities:
 - May-31 to Jun-9, 2022: Machine Learning at the Data Science for Energy Transition program in University of Houston (NSF funded project, <https://dsc.nsm.uh.edu/>)
 - Jun-13 to Sep-30, 2022: Energy Data Analytics (Bronze and Silver Belts, program funded by the Accelerating Credentials of Purpose Program, Texas Higher Education Control Board, <https://uh.edu/uh-energy/edac-program>)

Houston INNOVATION FACTORI Manager

Schlumberger Technology Corporation, Houston, TX, USA

Feb 2021- Dec 2021

- Heading the Houston INNOVATION FACTORI center as part of the newly launched [INNOVATION FACTORI](#) program to accelerate AI adoption for the energy industry.
- Participated in Machine Learning for Oil and Gas 2021 conference as a panel speaker.
- Presented webinars and client presentations on INNOVATION FACTORI at tier-1 events such as URTeC 2021 and SPE GCS Data Science Convention 2021.
- Manage a team of young Petro-digital experts and guide them on machine learning client projects in the energy space.
- Delivered 5 NEXT Fundamentals of Data Analytics classes and the UH Energy Data Analytics program to train over 80 participants and received excellent feedback on the engaging program delivery.
- Presented a paper at SPE ATCE 2021 on 'An Online Micro credential Certification Program to Upskill Petrotechnical Professionals in Data Analytics and Machine Learning with an Upstream Oil and Gas Industry Focus' (<https://doi.org/10.2118/205921-MS>)
- Completed Machine Learning projects on Multivariate time series approach for optimizing water injection, Predicting Induced Seismicity from Saltwater Disposal Wells and Predicting water production to aid midstream companies plan water disposal activities.

Training Services Manager- North America

Schlumberger Technology Corporation, Houston, TX, USA

Jun 2016 – Jan 2021

Key Responsibilities:

- In charge of the training services business for Schlumberger Software Integrated Solutions segment, North America region
- Manage the delivery and business aspects of Public training classes, Internal Schlumberger training programs and Private training classes and programs for E&P operators

- Support design and delivery of competency development programs in the area of Unconventional resources (Shale Oil / Shale Gas)
- Represent training services business (NExT) in Tier 1 conferences in the US such as AAPG, SPE, SEG and UrTEC
- Teach / Mentor clients and university students in the area of Data Analytics, M/LWD, Directional and Horizontal Drilling, Well Placement and OilSim simulator-based training.
- Have the secondary responsibility of being the University relations in charge for the Software Integrated Solutions segment's North America operations

Achievements:

- Modified the <https://www.nexttraining.net/course/fundamentals-of-data-analytics--remote-instructor-led-series-/3104> course to deliver the hands-on labs using the Schlumberger DELFI Data Science profile (Dataiku) in Dec 2020 and delivered a public class in the week of 14th Dec 2020 with excellent feedback from participants.
- Certified, and delivered Dataiku DSS basic and advanced training successfully for Schlumberger in Oct 2020.
- Completed drilling analytics projects such as ROP prediction, Drilling vibration prediction and Drilling run duration prediction using Dataiku DSS.
- Successfully launched a joint training program on Energy Data Analytics with UH Energy (<https://uh.edu/uh-energy/edac-program>) in July 2020 and delivered three program successfully as a co-instructor.
- Collaborated with University of Houston Downtown faculty to design the first course for NExT on Data Analytics with oil and gas focus in May 2019 (<https://www.nexttraining.net/course/fundamentals-of-data-analytics/3245>). Redesigned this course for remote delivery and based on visual programming concepts in April 2020 to address training during COVID crisis, (<https://www.nexttraining.net/course/fundamentals-of-data-analytics--remote-instructor-led-series-/3104>). Successfully delivered the first class as a co-instructor in Sep 2020 for PEMEX with excellent feedback.
- Executed a plan to swiftly convert training services to online which maintained business continuity during COVID-19 crisis and enabled over 300 clients to complete their software training plans as planned.
- Recognized by the NExT Global Business Manager for delivering the first class on directional drilling incorporating hands on labs using the Schlumberger DELFI cognitive E&P environment & Tableau visual analytics.
- Designed and managed delivery of the first hybrid new hires training program for Marathon Oil (45% online delivery and 55% In class lectures / workshops / simulation sessions) from Sep 2017- April 2018.
- Designed and delivered a 2 day Directional Drilling and Surveying Fundamentals training with Petrel well design labs for AADE student chapter of Texas A&M University in Jan 2017, AADE Student chapter of Penn State University in Apr 2017 & Oct 2018, AADE Student chapter of Texas A&M University Kingsville in Oct 2017, Marathon Oil new hire training program in Nov 2017 and University of Wyoming Petroleum Engineering Department in March 2018 with excellent feedback.
- Delivered many integrated and practical training programs successfully for clients such as SM Energy, Shell, ConocoPhillips & BSEE incorporating the Learning by Doing concept for better knowledge retention and accelerated capability development.
- Published SPE paper on PetroChallenge at SPE ATCE, Dubai, Sep 2016.
- Successfully extended PetroChallenge initiative in 2016 despite the difficult business climate due to low oil price with 30% business growth- Added a new University to the list (University of Wyoming) and also extended the PetroChallenge for schools' event outside Texas (Laramie High School, Wyoming).
- Invited to attend the NExT and Accenture Strategy HR Forum held in May 2016 & May 2017 in Houston, TX.
- Represented Schlumberger at the Industry Advisory Board meeting of University of North Dakota in Feb 2017.
- Represented Schlumberger at the CAHSI onboarding workshop held at University of Houston Downtown in Aug 2019.

Project Manager-NExT Oil and Gas Training Schlumberger Technology Corporation, Houston, TX, USA

Jun 2012-Jun 2016

Key Responsibilities:

- Primary responsibility is to design and deliver Training and Competency Development programs in the area of Unconventional Oil and Gas (Shales).
- Also Responsible for the NExT Oil & Gas training business for North America
- Manage the delivery and business aspects of Public training classes, Internal Schlumberger training programs and Private training classes and programs for E&P operators
- Represent NExT in Tier 1 conferences in the US such as AAPG, SPE, SEG and UrTEC
- Teach / Mentor NExT clients in the area of M/LWD, Directional Drilling, Well Architecture and Drilling in Shale Plays and OilSim simulator-based training.

- Have the secondary responsibility of being the University relations in charge for the Software Integrated Solutions segment's North America operations

Achievements:

- Designed and delivered successfully the first 16 months Shale Gas training program for Saudi Aramco in the US. Success resulted in direct award of the 2nd program which was also delivered successfully.
- Recognized with the DCS Rewards of Excellence WOW Award (highest category) in Customer Service in Dec 2012
- Recognized with the Performed by Schlumberger 2013 award (Bronze Medal) for successful design and delivery of the Multi Domain Shale training program.
- Designed the 12 weeks Multi Domain Shale Training program and managed 2 deliveries successfully for Sonatrach in Houston, TX (<http://www.nexttraining.net/immersive-learning-programs/training-programs/multidomain-shale-training-program.aspx>)
- Delivered many integrated and practical training programs successfully for clients such as SM Energy, Shell, ConocoPhillips & BSEE incorporating the Learning By Doing concept for better knowledge retention and accelerated capability development
- Collaborated with NExT and academia to successfully launch the unique PetroChallenge for Universities competition in North America in 2015 using OilSim learning simulator (www.petrochallenge.com or www.facebook.com/petrochallenge)
- Taught and mentored training sessions on "Well Architecture and Drilling in Shale Plays" for different training programs with excellent feedback from participants from E&P companies.
- Invited to attend to the 10th Oil & Gas HR Forum, Dec-2013, Paris organized by Schlumberger Business Consulting (SBC) and NExT.

Project Manager-NExT Oil and Gas Training

Nov 2011-Jun2012

Schlumberger, Dhahran, Saudi Arabia

Key Responsibilities:

- Responsible for successful delivery of the major training projects delivered by NExT Saudi Arabia to customers such as KJO and Saudi Aramco.
- Additionally, responsible for business development and proposals preparation for new NExT business.

Achievements:

- Spearheaded technical discussions and negotiations to qualify for direct award of the first Shale Gas training program for Saudi Aramco.
- Coordinated the efforts for successful completion of the First Multi-Disciplinary NExT Training Program for Female Geoscientists and Engineers from Saudi Aramco in Schlumberger's Middle East Learning Center (MLC).

Operations Manager- Data & Consulting Services

Feb 2010-Oct 2011

Schlumberger, Khartoum, Sudan

Key Responsibilities:

- Responsible for the Schlumberger DCS and NExT E&P training business in the Sudan Geomarket.
- Managed a team of 30 Geoscientists / Petroleum Engineers who deliver Single well interpretation projects, Real time Well Placement and Geostreeing services, Field Studies (FDP, G&G studies) and E&P training to various E&P companies in Sudan.
- Service delivery, Profit and Loss of DCS business, Sales & Business Development, QHSE and promoting effective Teamwork are other essential responsibilities
- Support other Schlumberger Segments in providing integrated and real time technical solutions to E&P operators in Sudan.

Achievements:

- Provided value added service to a client, RSPOC, in drilling the first offshore HPHT exploration well targeting sub salt reservoirs in Sudan in over 20 years with look ahead velocity inversion from VSP for Pore pressure modeling and optimization of drilling program.
- Delivered a successful screening and pilot design project for Enhanced Oil Recovery to a major client in Sudan (WNPOC) which resulted in a big EOR Pilot Execution contract award for Schlumberger Production Management group.
- Successfully negotiated and won an important full field review study tender from GNPOC, managed the project to successful delivery and closure with excellent feedback from the client. This opened doors for an extended project scope on Miscible gas injection study for Enhanced Oil Recovery (EOR).
- Managed attrition levels at zero despite the uncertainties around the split of Sudan and its effect on home country employees.
- Improved the training and promotion delays of technical staff (geoscientists and petroleum engineers) significantly which has resulted in a motivated team that delivers superior services to various E&P customers in Sudan.

Data Services Manager- Data & Consulting Services

May 2008-Jan 2010

Schlumberger, Mumbai, India

Key Responsibilities:

- Managed a team of 50 Geoscientists and Petroleum Engineers to provide services to all the major E&P operators in India (ONGC, Reliance, British Gas, Oil India Limited and others)
- Responsible for Single well & Multi Well Processing and Interpretation services business (Data Services) in Geoscience (Geology, Petrophysics, Geophysics, Geomechanics) and Petroleum Engineering (Reservoir & Production) disciplines AND Real time Well Placement & Geosteering and Real time Pore Pressure prediction services.
- Service delivery, Profit and Loss of Data services business, Sales & Business Development, QHSE and promoting effective Teamwork are other essential responsibilities
- Closely involved and managed successful execution of many Geomechanics projects as line manager
- Business development for Interpretation Services, Geomechanics business including Real time Geomechanics service.
- Actively participated in technical reviews and discussions of various Field review studies carried out by the Consulting Services team.

Achievements:

- Significant reduction in employee attrition during my tenure
- Turned around the performance of the remote data processing center for one of the major clients which resulted in significant improvement in service delivery and a satisfied client.
- Successfully negotiated to include Real time geomechanics services as part of the technical scope of work for a major deep-water tender for one of the major clients.
- Finalized internal business models with other Schlumberger segments to provide integrated Schlumberger solutions to clients whilst maintaining a profitable segment business.
- Worked closely with the Schlumberger Information Solutions segment (SIS) to promote Operations Support Center concept to the leading National Oil Company in India that would provide a collaborative work environment for decision making using real time information for optimizing drilling and production operations
- Started the technical discussions and laid the framework for a field wide Geomechanics study for one of the major clients which resulted in the contract being awarded to Schlumberger.

Account Manager- Oilfield Services

Apr 2007-Apr 2008

Schlumberger, Mumbai, India

- A Sales Management position where I was the focal point for all Schlumberger services to Reliance Industries Limited
- Responsible for overall business development for Schlumberger Oilfield Services with Reliance Industries Limited
- Coordinated and attended executive review meetings between Schlumberger & Reliance E&P top management
- Ensuring superior Service Delivery of all Schlumberger services by coordinating with various Segment managers and teams
- Played a key role in establishing successful Real Time Pore Pressure prediction and drilling optimization services from the Reliance Real Time Operations Support Center
- Reviewed technical and commercial proposals from Schlumberger segments for key tenders and participated in negotiation meetings
- Played an instrumental role in assisting NEXt to secure the first E&P training contract for Reliance E&P fresh hires training program, worked closely with the segment organization to ensure superior service delivery, customer satisfaction and ensured repeat business through direct award for the following year's training program.
- Coordinated a special engagement between Schlumberger Infrastructure Solutions group and Reliance to finalize new designs for Collaborative Work Environment (Real Time Operations Center) for their new office
- Coordinated with the Schlumberger Information Solutions segment for proposal finalization and technical / commercial negotiations for an important tender on Production Data Management System and Real Time Production monitoring for their biggest offshore deep-water development project.

Service Delivery Manager- Drilling & Measurements

Jul 2005-Mar 2007

Schlumberger, Kemaman, Malaysia

Key responsibilities:

- Responsible for Operations support to Drilling and Measurements (D&M) Segment operations in Brunei, Malaysia & Philippines (BMP)
- Providing technical leadership for the 3 operating locations to assure high quality Measurements / Logging while drilling and Directional drilling services to various clients such as Petronas, Exxon Mobil, Murphy Oil by ensuring implementation of standards & processes.

- Provide coaching and guidance to Maintenance technicians and supervisors for systematic trouble shooting, root cause identification, failure closure and reporting.
- Provided consultancy support to the field management team and IT team to set up an Operations support center in KL office to support real time monitoring of D&M jobs in the region.
- Forecasting equipment requirements, defining technical problems or equipment design limitations and contributing to solutions.
- Working closely with the Supply Chain department and key logistics services providers such as DHL to ensure timely delivery of assets and consumables through a process driven approach.
- Working with field management to correct technical problems. Monitoring introduction of new services and/or equipment and insuring clear lines of communication for the flow of technical information.
- Conducting Audits & technical assessments to evaluate compliance to Service Quality standards & processes and put in place continuous improvement plans

Achievements:

- Worked closely with the Rotary steerable systems product center and field teams to reverse the trend of PowerDrive Rotary steerable systems performance & reliability through systematic root cause analysis and problem solving.
- Addressed the issue of Positive Displacement Motor stator failures in high temperatures by introducing the HN234 elastomer-based stators and registered a significant improvement in reliability through improved maintenance and improved operational practices by Directional Drilling engineers for Petronas.
- Assisted the segment to record significant improvement in service quality through a process driven approach.
- Coordinated a special project to achieve excellent improvement in Asset Utilization efficiency.
- Lead the efforts to implement DnM Service Quality Standards and processes across maintenance & field activities which resulted in significant increase in compliance.
- Nominated to join the MSc Petroleum Engineering program at Heriot-Watt University (Distance Learning) based on outstanding job performance and contribution to the results of the company
- Part of the team that received the Performed by Schlumberger Bronze award in 2007 for successful New technology introduction to Petronas
- Received the Drilling and Measurements President SQ award in 2006 for successful deployment of high tier LWD services to one of the clients (Carigali Hess)

Field Services Manager– Drilling & Measurements

Dec 2002- Jul 2005

Schlumberger, Balikpapan, Indonesia

Key responsibilities:

- Responsible for delivery of measurements services (MWD,LWD & Drilling Mechanics) to Unocal Indonesia for their offshore shallow and deep-water drilling operations.
- Provide field engineers and specialists with the support needed to deliver safe, high-quality service to Unocal.
- Successfully managed a team of 35 field engineers & specialists and responsible for their overall career development
- Worked closely with the Repair and Maintenance department staff to ensure prompt tool servicing, tool preparation and systematic closure of failures.
- QHSE Management, Knowledge Sharing, Revenue and Activity forecasting, Cost control and Identifying new business opportunities were some of the key focus areas in my role.
- Real time support using InterACT-Schlumberger web based real time data delivery system to Unocal Geoscientists and Drilling Engineers utilizing key LWD measurements for Formation Evaluation & Drilling Mechanics (Shock & Vibration monitoring, Annular pressure etc.,) in their aggressive drilling campaign.
- Quarterly Service Quality meetings with Unocal to present performance of MWD/LWD services, Operational highlights and continuous improvement actions.
- Worked very closely with the Directional Drilling Project manager and engineers for successful integration and use of LWD answers to successfully introduce Rotary Steerable solutions to Unocal which brought huge improvement in drilling efficiency and improved LWD data acquisition business.

Achievements:

- Delivered excellent service quality to Unocal during my tenure.
- Successfully delivered the following projects to introduce new technologies to Unocal:
 - LWD Nuclear Magnetic Resonance service (proVISION) to overcome tough logging condition challenges.
 - LWD Formation Pressure While Drilling service (StethoScope) to optimize deep-water exploratory drilling.
 - Real time LWD Imaging service using adnVISION LWD technology
 - Gyro While Drilling service for the Unocal's first deep water development campaign in the West Seno field (optimizing batch drilling of surface holes from a Tension Leg Platform)

- Successfully coordinated a challenging project using latest LWD technologies (Sonic, NMR, Lateralog Resistivity Imaging and triple combo) to successfully characterize hydrates in shallow formations in an offshore environment and help client achieve their objective to identify an optimum surface location for production platform accounting for hydrate instability risks.
- Assisted the newly appointed Operations Support Engineer to set up the first D&M Operations Support Center in Balikpapan which provided a collaborative environment to D&M experts and customers for real time monitoring and decision making to optimize drilling operations.
- Played an important role as a line manager (Field Service Manager) to roll out and implement the D&M Service Quality Standards to the D&M Balikpapan organization, particularly the aspects of Field Engineers training and competency, Field operations Planning and Execution and Service Delivery Excellence.

Field Services Manager– Drilling & Measurements

Jun 2002-Dec 2002

Schlumberger, Doha, Qatar

Key responsibilities:

- Responsible for delivery of measurements services (MWD,LWD & Drilling Mechanics) to key E&P operators in Qatar such as Occidental, Maersk, Total Fina Elf & Qatar Petroleum.
- Provide field engineers and specialists with the support needed to deliver safe and high-quality service to clients.
- Managed a team of 30 field engineers & specialists and responsible for their overall career development.
- Worked closely with the Repair and Maintenance department staff to ensure prompt tool servicing, tool preparation and systematic closure of failures.
- QHSE Management, Knowledge Sharing, Revenue and Activity forecasting, Cost control and Identifying new business opportunities were some of the key focus areas in my role.

Achievements:

- As the project lead, worked closely with product center personnel and ensured successful introduction LWD Nuclear Magnetic Resonance(proVISION) New Technology service to Maersk Oil.
- Worked closely with the Directional drilling team to successfully introduce the Point the bit Rotary Steerable System New Technology service to Maersk Oil. Ensured successful integration of LWD information and team work between LWD engineers & Directional drilling engineers in delivering superior Rotary Steerable systems performance for the clients.
- Coordinated a special project jointly with the Schlumberger DCS Petrophysicist to demonstrate the value of LWD images from the GeoVISION tool in understanding structural geology of the fields and optimize well trajectory placement.
- Part of the team that delivered excellent service quality to Maersk in drilling record length horizontal drain holes.
- Selected to attend the SlimPulse MWD technical seminar in Sugar Land, TX in Nov 2002

Service Quality Coach– Drilling & Measurements

May 2001-Jun 2002

Schlumberger, Doha, Qatar

Key responsibilities:

- Primarily responsible for technical aspects of customer service field work related to Schlumberger equipment.
- Coached / Guided over 10 young field engineers and specialists in various aspects of MWD/LWD job preparation and execution
- Implemented service quality tools and processes with the key focus on delivering the services with highest standards of Service Quality.
- Other responsibilities included promoting continuous improvement and knowledge management by ensuring effective usage of technology and web-based tools by engineers and technicians.
- Technical follow up of Service Quality incidents and attending Client Service Quality meetings were also key part of this assignment.
- Clients included Occidental Petroleum of Qatar, Maersk Oil Qatar, Total Fina Elf Qatar and Qatar Petroleum.

Achievements:

- Ensured excellent service quality to clients by successfully coaching and mentoring young field engineers
- Coordinated a special project to successfully introduce the SlimPulse MWD technology to Total Fina Elf to drill their intermediate hole sections using silicate mud systems and land their horizontal wells optimally.

Drilling Services Engineer– Drilling & Measurements

Dec 2000-Apr 2001

Schlumberger, Abu Dhabi, United Arab Emirates

Key responsibilities:

- Work locations included offshore and onshore in UAE, Qatar & Iran.

- Key E&P Clients: ADCO, ADMA-OPCO, TOTAL Sirri, Dubai Petroleum Company, NIOC-Iran, POGC-Iran, Occidental Petroleum of Qatar and Elf Petroleum, Qatar.
- Primary responsibilities included delivering high quality MWD/LWD/Drilling services projects to various clients at the well site.
- Service Quality, Job aspects including planning, preparation and execution, Job safety and Products revenue were my key priorities. I was responsible for the overall management of any Measurements and Drilling services projects provided at the well site and for the training and development of subordinates at the well site.

Achievements:

- Specially requested by Occidental, Qatar to work on LWD projects since Nov 2000 which involved real time geosteering horizontal wells in the Idd El Shargi field using LWD and PowerDrive Rotary Steerable technologies.

Senior Field Engineer (LWD)- Drilling & Measurements

Jun 1998- Dec 2000

Schlumberger, Abu Dhabi, United Arab Emirates

Key responsibilities:

- Countries of work included UAE, Qatar and Iran.
- Clients included ADCO, ADMA-OPCO, TOTAL Sirri, Dubai Petroleum Company, NIOC-Iran, POGC-Iran, Occidental Petroleum of Qatar and Elf Petroleum, Qatar.
- As Senior Field Engineer, I was responsible for delivering high quality MWD/LWD services projects to various clients at the well site. I was involved in successful execution of over 40 projects as the Team Lead / Cell Manager.
- Key priorities were Service Quality, Job preparation, Planning, Execution and Safety.
- I was also responsible for training and development of junior engineers and trainees at the well site.

Achievements:

- Successfully completed 4 special projects for POGC-Iran to use LWD triple combo to log their wells where conventional wireline logging was not possible due to challenging hole conditions and wellbore stability issues.
- Executed 5 challenging projects for NIOC-Iran in remote offshore environments to introduce the Vision475 New Technology LWD services which helped them achieve their formation evaluation objectives in horizontal wells and avoid complicated wireline logging alternatives. Worked with junior Iranian LWD engineers and trained them during these projects.
- Successfully planned and executed radioactive source fishing in horizontal well for NIOC-Iran with minimum technical support from office (remote location). Received one of the first Schlumberger Knowledge Sharing awards in 2000 for this effort.
- Passed both the technical training seminars (Resistivity and Porosity schools) with merit and topped the class
- Selected to participate in the Slim1 5.5c surface system Y2K testing in Sugar Land, TX in Apr 2009

Engineer-In-Charge- Drilling & Measurements(Anadrill)

Dec 1997-Jun 1998

Schlumberger, Al-Khobar, Saudi Arabia

- Given this special responsibility of line management based on my excellent performance in the previous two years and primary task was to coordinate operations of Anadrill MWD/LWD, Directional Drilling and Rental Services (Jars and fishing equipment) at the Shaybah field site.
- Responsibilities included Logistics coordination, liaising with the Client (Saudi Aramco), Personnel management and providing technical support and guidance to the Field engineers.

Field Engineer (MWD/LWD)- Drilling & Measurements(Anadrill)

Jul 1995-Nov 1997

Schlumberger, Al-Khobar, Saudi Arabia

Key responsibilities:

- My first job after completing my Engineering studies.
- Responsibilities included Preparation, Coordination and Execution of Measurements While Drilling projects (MWD/LWD) to provide Real Time measurement services to Saudi Aramco and Kuwait Oil Company to drill deviated and horizontal oil and gas wells effectively and efficiently. I was involved in successful execution of over 25 MWD projects.
- Working as a part of the Anadrill team to directionally place and drill challenging deviated and horizontal wells.
- Countries of work included Saudi Arabia and Kuwait.

Achievements:

- Progressed very quickly through dedication and hard work to lead MWD projects as Cell Leader in less than 6 months of joining.
- Topped the class in the first technical training seminar held at Anadrill Training Center, Houston
- Contributed to the success of the first horizontal wells drilling campaign as MWD Cell Leader along with the Directional Drilling

team in the famous Shaybah field of Saudi Arabia and received the Anadrill president's award.

Education

University of North Dakota, Grand Forks, ND, USA Aug 2022

Doctor of Philosophy (PhD) Petroleum Engineering

- PhD project: Data Driven Approach to Saltwater Disposal Well Location Optimization in North Dakota
- Other projects:
 - North Dakota Gas Capture Trends using Visual Analytics
 - Predicting Spills Incident Type using Machine Learning
 - Similarity Analysis of State Statutes- Oil and Gas Regulations, US and Canada using text mining techniques
 - Understanding Produced Water Geochemistry in US using Visual Analytics

University of Houston Downtown, Houston, Texas, USA May 2020

Master of Science in Data Analytics (MSDA)

- Received Myrtle Watts scholarship in Fall 2019
- Graduated with a 4.0 GPA

Heriot-Watt University, Edinburgh, Scotland Oct 2015

Master of Science (Distinction) Petroleum Engineering

- Distance learning program
- Completed all 9 course modules with an A grade between Jan 2007 to Jul 2009 and qualified for 'Post-Graduate.Diploma'
- Successfully completed the design project and individual project between Jan-Apr 2015 and qualified for the M.Sc. degree with Distinction

Birla Institute of Technology & Science (BITS), Pilani, Rajasthan, India May 1995

Bachelor of Engineering (Honors) Electrical & Electronics &

Master of Science (Honors) Mathematics

- Integrated 5 years Dual Degree Program
- CGPA 8.18/10, First Division

Professional Certification

Project Management Institute (PMI), USA Oct 2015

Project Management Professional (PMP)

- PMP Number 1861992, Grant date: 10-Oct-2015, Expiry date: 09-Oct-2024

Tableau, USA Jun 2019

Tableau Desktop Specialist

- Candidate ID: 1008421, Issue Date: 19 Jun 2019, No expiration

Awards / Achievements:

- 2022, Doctoral Research Grant Award, Spring 2022, University of North Dakota
- 2019, Recipient of the Myrtle & James Watts Scholarship for MS (Data Analytics), Fall 2019, University of Houston Downtown (https://www.uhd.edu/academics/sciences/Pages/sciences-scholarships.aspx#Myrtle_C_Watts)
- 2000-2016- Received several recognition letters from Schlumberger Chairman for outstanding performance
- 2015, The Glenn Harris Price 2014-15 from Heriot-Watt University for highest aggregate examination performance in Drilling Engineering and Production Technology in the M.Sc. Petroleum Engineering program.
- 2013, Bronze Medal, Performed By Schlumberger award for "Multi Domain Shale Training"
- 2012, Data & Consulting Services Rewards of Excellence WOW Award
- 2007, Part of the Drilling and Measurements team that received Bronze Medal, Performed by Schlumberger award for the

- project "The Value of New Technology to Petronas Carigali".
- 2006, D&M Presidents Award - Q3 2006, "Cakerawala-A: Redefining the Scope of LWD"
- 2006, Selected to pursue MSc Petroleum Engineering program through Distance Learning based on outstanding job performance
- 2000, Received the first Knowledge Sharing Recognition award, Q1-2000, MEA, LWD
- 1997, Anadrill President award for successful Anadrill operations in "Shaybah" field, Saudi Arabia
- 1995, Merit scholarship from S J Jindal trust, New Delhi during engineering studies (Aug 1990-May 1995) at BITS, Pilani.
- 1994, Attended the 4 weeks Mathematics Training and Talent Search Programme (MTTS Level-2) at Indian Institute of Technology, Mumbai, India from 23-May to 18-Jun. Selected based on academic performance in MSc Mathematics core courses and recommendation by Dr. H. Subramaniam, Professor, Mathematics and Dean-Faculty Division I at BITS, Pilani (<http://www.mtts.org.in/previous-mtts/mtts1994>, <http://www.mtts.org.in/about-mtts>, <http://www.mtts.org.in/faq#faq2>)
- 1990, Merit certificate from Department of Education, Government of Tamilnadu State, India for performance XII (Higher Secondary) class government examinations.
- 1988, Merit certificate from Department of Education, Government of Tamilnadu State, India for performance X class government examinations.

Recent Data Science Projects

University of North Dakota, Grand Forks, ND

Data Driven Approach to Saltwater Disposal Well Location Optimization in ND

Jun 2020- Jul 2020

- PhD project Identified and scraped data from several sources progressively for data augmentation. Completed data integration, feature engineering, variable transformation and exploratory data analysis to gain deeper insights about the performance of SWD wells in ND. Trained regression machine learning models to predict monthly water disposal and multi-output regression models using deep learning techniques to predict water production. Applied Graph Data Science techniques using to create knowledge graph for SWD wells and used Graph algorithms for centrality, community detection and clustering to provide unsupervised models. Tools used include Python, Jupyter Notebook, Orange, Tableau and Neo4j.
- Scraped the web to extract oil and gas regulatory statute summaries of all US and Canada States and used Natural Language Processing (NLP) techniques to determine similarities and clustering algorithm to group States based on statute similarity. Python and Jupyter Notebook were the tools used and latest NLP libraries such as Gensim and NLTK were used. Orange visual programming tool was used to compute the clusters using hierarchical clustering techniques.

Understanding oil and gas regulatory statutes similarity using NLP

Jun 2020- Jul 2020

- Scraped the web to extract oil and gas regulatory statute summaries of all US and Canada States and used Natural Language Processing (NLP) techniques to determine similarities and clustering algorithm to group States based on statute similarity. Python and Jupyter Notebook were the tools used and latest NLP libraries such as Gensim and NLTK were used. Orange visual programming tool was used to compute the clusters using hierarchical clustering techniques.

Predicting spill incident type using text mining and Machine Learning

Jun 2020- Jul 2020

- Trained a machine learning model using Orange visual programming pipeline and text data description of spill incidents to predict spill type.

University of Houston Downtown, Houston, TX

Digital Listening- Understanding Yammer Conversation

Jan 2020-Apr 2020

- Extracted insights about sentiments and topics from Yammer conversations in Schlumberger between Jan 2017 and June 2019 using Natural Language Processing (NLP) techniques like sentiment analysis, text summarization and topic modeling. Python and Jupyter Notebook were the tools used and latest NLP libraries such as Gensim, TextBlob, NLTK and SpaCy were used. Product delivered as Tableau and Power BI dashboards.

Natural Gas price prediction

Sep 2019-Nov 2019

- Forecasted US Natural Gas city gate price using time series NLP analysis and considering interaction effects of Natural Gas production, Underground gas storage, Imports and Exports. SAS On Demand, SAS Forecast Studio and JMP were the tools used to complete the project.

Deep Learning based food image detection

Sep 2019-Nov 2019

- Developed and trained Deep Learning models using Convolutional Neural Network (CNN) to classify food images from the Food-101 dataset in Kaggle. Used Transfer Learning and leveraged pre-trained models such as VGG16, VGG19, ResNet50, InceptionV3 and InceptionResNetV2 to improve classification accuracy. Python, Jupyter Notebook and Keras were the tools used.

Predicting ROP in a geothermal well

Feb 2019-Apr 2019

- Predicted ROP using drilling parameters and wireline log features from a geothermal well drilled as part the Utah FORGE Enhanced Geothermal System (EGS) project by training several regression machine learning models like multi-linear regression, regression trees, random forest, support vector machines and artificial neural network algorithms. Principal Component Analysis for dimensionality reduction was also considered. RStudio and relevant R packages were used as tools, including caret package for hyper parameter tuning to optimize model performance.

Effects of the shale revolution in the US energy landscape

Sep 2018-Nov 2018

- Created visualizations and dashboards using Tableau to gain insights through visual analytics and understand the effect of shale revolution on US energy landscape. Used data on primary energy production and consumption, natural gas production, crude oil production, production from US shale gas and shale oil from Energy Information Administration (EIA), oil and gas employment numbers from Bureau of Labor Statistics (BLS) and earthquake data from and USGS.

Current Software and Programming Skills

- Neo4j Graph Data Modeling and Graph Data Science
- Tableau Desktop and Power BI for data visualization and analytics
- R & Python Programming Languages for data science
- Dataiku Data Science Software
- Orange visual programming for data analytics
- JMP statistical software and SAS On Demand for time series analysis
- Anaconda Data Science Platform, RStudio, Jupyter Notebook and Spyder Integrated Development Environments
- Petrel (Drilling-Pad Placement and Well Design, RapidPlan Field Development Planning for conventional and unconventional reservoirs)
- Office 365 including Excel, Word, PowerPoint and Forms
- WebEx, Zoom and Microsoft Teams online meeting / training platforms
- Schlumberger DELFI E&P cognitive platform (cloud-based)

Publications and Presentations

- Venugopal, Kalyanaraman, "Data Driven Approach to Saltwater Disposal Well Location Optimization in North Dakota"; Doctoral Dissertation, University of North Dakota, Grand Forks, ND, 5-Aug-2022
- Khan, Abdul Muqtadir; Sharan, Shashin; Venugopal, Kalyan; Venkataraman, Lalitha and Najmi, Asim, "Data Engineering And Supervised ML Enabled Predictive Model For HPHT Fracturing Fluid Rheology - Digital Laboratory Approach"; Paper 22IPTC-22085-MS, Selected for presentation at 2022 International Petroleum Technology Conference, Riyadh, Saudi Arabia. doi: <https://doi.org/10.2523/IPTC-22085-MS>
- Venugopal, Kalyanaraman ; Shastri, Dvijesh ; Radhakrishnan, Suryanarayanan and Krishnamoorti, Ramanan, "An Online Microcredential Certification Program to Upskill Petrotechnical Professionals in Data Analytics and Machine Learning with an Upstream Oil and Gas Industry Focus." Paper presented at the SPE Annual Technical Conference and Exhibition, Dubai, UAE, September 2021. doi: <https://doi.org/10.2118/205921-MS>
- Venugopal, Kalyan; 'Digital Listening- Understanding Yammer Conversation'- Capstone project for fulfilling the requirements of the MSDA program requirements; University of Houston Downtown, Houston, TX, USA; 27-Apr-2020
- Kalyanaraman Venugopal, Paula Kelly, Abul Jamaluddin, NExT, A Schlumberger Company; Charles McConnell, Rice University Executive Education; Monty Alger, Eugene Morgan, Rui Ni, The Pennsylvania State University; Ronald Dunn, ShawCor; Giovanni Grasselli, University of Toronto; "Paper# 181404- The PetroChallenge - An Innovative E&P Learning Experience using an Interactive Learning Simulation"; SPE ATCE, Dubai, Sep 2016
- Venugopal, Kalyan; "Rapid Field Development Planning of a Shale Oil Play"- Project Report for fulfilling M.Sc. Petroleum Engineering degree requirements; Heriot-Watt University, Edinburgh, Scotland; 30-Apr-2015
- Jamaluddin, Abul; Chhibber, Ravi; Venugopal, Kalyan; "Accelerating Development – An Example Shale Training Program"; SPWLA, San Diego, California; 26-Mar-2014
- Alobaydan, Abdulaziz; Chhibber, Ravi; Jamaluddin, Abul; Murphy, Lynn; Venugopal, Kalyanaraman; Johnson, Jeffrey; Al-Abdulbaqi, Seraj; "Bridging the Talent Gap"; Oilfield Review; Spring 2013
- Jamaluddin, Abul; Venugopal, Kalyan; "Developing Core Competencies to Meet Unconventional Challenges", The Edge Magazine; 2013 Issue 2
- Rao, Dhires; Venugopal, Kalyan; Alexander Joe; Kumar, Devendra; "Sanding Analysis for Well C-24-P-2, Tapti Field, Bassein & Satellite Asset, ONGC - A Case Study", INM Schlumberger Reservoir Symposium, Mumbai; 12-May-2009

Presented the following topics in conferences / technical events:

- First Integrated Shale Gas Training Program for a Middle East NOC by NExT, Schlumberger Eureka Unconventional Resources Special Interest Group (SIG) Webinar, May 2013
- Launch of the NExT Multi Domain Shale Training Program, AAPG Houston, Apr 2014
- Shale Learning Consortium, Schlumberger Theater Presentation, UrTEC Denver, Aug 2014
- OilSim learning simulator competition, SEG, Denver, Oct 2014
- Multi Domain Shale Training Program: Accelerated Capability Development, Schlumberger Theater Presentation, UrTEC, San Antonio, TX, Jul 2015
- A Proven Formula for Accelerated Shale Development – The Shale Training Program from NExT, Schlumberger Theater Presentation, SEG, Dallas, Oct 2016
- Digital training and Virtual Reality based training solutions from NExT, SIS Delivering Digital Event, Houston, TX, Nov 2019
- Speaker, Panel discussion: machine learning case studies and practical insight in the brave new world of Covid-19, [Machine Learning in Oil and Gas Conference 2021](#), Houston, TX
- Accelerating AI adoption for energy companies, Schlumberger Theater Presentation, UrTEC Houston, July 2021

Presented the following technical review and analysis papers in APOGEE, the All India academic symposium of BITS, Pilani:

- Fuzzy control systems, Apogee - March 1993.
- Comparison of Fuzzy inference methods, Apogee - March 1994.
- Fuzzy control of an autoclave, Apogee - March 1995.

Professional Training

Technical training:

- Basic MWD and Directional Drilling School, Oct 1995, Sugar Land, TX
- Resistivity School, Oct 1998, Sugar Land, TX
- Porosity school, May 1999, Sugar Land TX
- SlimPulse MWD technical seminar, Nov 2002, Sugar Land, TX
- Petroleum Geoscience, Jan 2007, NExT, Abu Dhabi, UAE
- Fundamentals of Reservoir Engineering, Apr 2007, NExT, Abu Dhabi, UAE
- Production Technology, Sep 2007, NExT, Abu Dhabi, UAE
- Fundamentals of Well Testing & Interpretation, Jan 2008, NExT, Abu Dhabi, UAE
- Petroleum Economics, Mar 2008, NExT, Abu Dhabi, UAE
- Advanced Production Technology, Jul 2008, NExT, Abu Dhabi, UAE
- Reservoir Simulation, Nov 2008, NExT, Abu Dhabi, UAE
- Petrel Well Design Boot Camp (Trainer Certification), Jan 2015, Houston, TX
- Reservoir Geomechanics, Jun 2017, Stanford Online
- Data Science Overview (e-learning), Feb 2018, Skillsoft
- Predictive Analytics (e-learning), Apr 2018, Skillsoft
- Data Analysis concepts (e-learning), May 2018, Skillsoft
- Fundamental methods for data science in R (e-learning), Jun 2018, Skillsoft
- Tableau Desktop Specialist eLearning course, Jun 2019, Udemy
- Spark and Python for Big Data with PySpark, Aug 2019, Udemy
- NLP with Python for Machine Learning, Jan 2020, LinkedIn Learning

General / Management training:

- Cell Managers Workshop, Nov 1997, Singapore
- Basic Management Skills (OFS2), June 2000, Cairo
- People Management (OFS3), Dec 2000, Abu Dhabi
- Finance Management (OFS4), Jan 2002, Kuala Lumpur
- QHSE for Managers, Mar 2003, Jakarta
- Service Delivery and Project Management (SDPM), Mar 2004, Sugar Land, TX
- Key Services Sales Training (KSST)- Drilling and Measurements Technologies, May 2005, Kuala Lumpur
- Auditors training, Apr 2006, Dubai
- Management Essentials-1 Seminar, Nov 2006, Kuala Lumpur

- Sales Training seminar 1, Nov 2007, Bangkok
- QHSE for Managers (Refresher), Mar 2009, Mumbai
- Power Messaging Workshop, Sep 2009, Mumbai
- Lean for Managers, Jun 2010, Khartoum
- Practical Project Management, Aug 2012, Houston, TX
- Negotiation Skills Refresher, Feb 2015, Houston, TX
- Ultimate PMP Preparation boot camp, Sep 2015, Houston, TX
- Schlumberger Employee Engagement training, Dec 2015, Houston, TX
- Leading Change Training, Sep 2016, Houston, TX
- Introduction to Change Management Workshop, Jun 2017, Houston, TX
- Learning Data Science: Using Agile Methodology, Jan 2020, LinkedIn Learning
- DevOps for Data Scientists, Jan 2020, LinkedIn Learning
- Agile Foundations, Feb 2020, LinkedIn Learning
- Transitioning from Waterfall to Agile Project Management, Feb 2020, LinkedIn Learning

Hobbies and Interests:

- Golf, Tennis, Badminton, Cricket, Scuba Diving (Developed passion for this activity during my assignments in the Far East & have a PADI certification), Yoga
- Traveling to exciting destinations with family

Volunteering Activities

- Judging the work of others:
 - 2014 onwards, Reviewer (Round 2) of the Schlumberger Foundation Faculty of the Future Scholarship renewal applications annually (<http://www.facultyforthefuture.net/content/grant-application-process>)
 - Apr 2016, ISWEEP 2016 Judge (www.isweeep.org)
 - May-Aug 2016, Paper Reviewer, PMI India National Conference (Project Management Institute [PMI] Volunteering opportunity 7249), <http://www.pmi.org.in/apps/papers2016/>
 - May 2017, ISWEEP 2017 Judge (www.isweeep.org)
 - May-Aug 2017, Paper Reviewer, PMI India National Conference (Project Management Institute [PMI] Volunteering opportunity) <http://www.pmi.org.in/apps/papers2017/>
 - Jul 2017, 2018, 2019, Judge & Guest speaker, Energy & Sustainability Camp at Bauer School of Business, University of Houston <http://www.bauer.uh.edu/undergraduate/prospective-students/high-school/summer-camps.php>
- Lecturing / Teaching / Facilitating:
 - 2020 onwards, One hour technical webinar for the University of Houston MS Data Science program in September.
 - Feb 2019, Co-Facilitator at the PetroChallenge for High Schools competition organized by IPAA
 - Oct 2018, Organized a two day training on Techlog Python for CAHSI member university students- seniors majoring in computer science from University of Houston Downtown and University of Houston Victoria
 - Feb 2018, Co-Facilitator at the PetroChallenge for High Schools competition organized by IPAA
 - Jan 2018, Co-Facilitator at the PetroChallenge competition (<http://www.nexttraining.net/resources/PetroChallenge.aspx>) held at Rice University, Houston, TX
 - Dec 2017, Co-Facilitator at the PetroChallenge competition (<http://www.nexttraining.net/resources/PetroChallenge.aspx>) held at Penn State University, State College, PA
 - Jan 2017, Co-Facilitator at the PetroChallenge for High Schools competition organized by IPAA
 - Nov 2016, Co-Facilitator at the PetroChallenge competition (<http://www.nexttraining.net/resources/PetroChallenge.aspx>) held at University of Wyoming, Laramie, WY for Laramie High School students and University of Wyoming students
 - Oct 2016, Co-Facilitator at the PetroChallenge competition (<http://www.nexttraining.net/resources/PetroChallenge.aspx>) held at Penn State University, State College, PA
 - Oct 2016, Co-Facilitator at the PetroChallenge competition (<http://www.nexttraining.net/resources/PetroChallenge.aspx>) held at Rice University, Houston, TX
 - Jan 2016, Co-Facilitator at the PetroChallenge for High Schools competition organized by IPAA
 - Nov 2015, Co-Facilitator at the PetroChallenge competition (<http://www.nexttraining.net/resources/PetroChallenge.aspx>) held at Rice University, Houston, TX
 - Oct 2015, Lead Facilitator at the PetroChallenge competition (<http://www.nexttraining.net/resources/PetroChallenge.aspx>)

- held at Penn State University, State College, PA
- Apr 2015, Guest speaker at the Foreign Service Officer (FSO) energy industry training program organized by Petroleum Equipment and Services Association (PESA)-delivered a talk on "Introduction to the Exploration and Production Industry"
- Mar 2014, Delivered an educational talk on "Introduction to Drilling" to high school students at Young Women's College Preparatory Academy, Houston, TX
- Mar 2014, Delivered an educational talk on "New technologies in Drilling" to high school students at Clements High School, Sugar Land, TX
- Oct 2013, delivered an educational talk on "How Oil is formed?" to Year 5 students at the British School of Houston, Houston, TX
- Other Activities:
 - Participated in the 'Adopt a Beach' beach cleanup activity at Surfside beach, Freeport, TX in Apr 2017, Apr 2016 and Sep 2015.

Extra-Curricular activities during bachelor's degree program

- May-Jul 1993, worked as a Student instructor assisting my institute faculty in conducting "Practice School -1" Industrial training program of BITS, Pilani at Bharat Heavy Electricals Limited, Ranipet, Tamilnadu and Hindustan Motors Limited, Tiruvallur, Tamilnadu.
- Oct 1993, involved in the organization of 'Rationale', an All India Intercollegiate Mathematics Symposium held at BITS, Pilani during October 1993 as In-charge, Finance Control and Chairperson, Paper presentation.
- Secured a place and attended the Mathematics Training and Talent Search (MTTS-94) program organized by National Board of Higher Mathematics at Indian Institute of Technology, Bombay during May - June 1994.
- Represented B I T S water polo team in BITS Open Sports Meet (BOSM-92).

Languages known (Oral and written):

- English, Hindi and Tamil