## Career Community Owner:

Information Technology

## Job Family Owner:

IT-Analytics

# (F) Data Visualization and Communication

## Skill Description:

Data Visualization and Communication is a skill that is used for creating informative and engaging displays of data. Mastery of this skill involves combining visual design, information architecture, programming, and statistics in order to answer complex questions using data..

## Proficiency Level Descriptions

|  |  |  |  |
| --- | --- | --- | --- |
| Level 1 | Level 2 | Level 3 | Level 4 |
| • Familiar with classic literature (e.g. Few, Tufte) and internal experts in data visualization• Familiar with basic data types (quantitative vs. categorical) and the most common information displays (tables, bar charts, scatter plots, etc.)• Aware of the most widely used commercial software for data visualization | • Proficient with at least one commercial data visualization program• Able to build data visualizations that work with live data sets• Knowledgeable of human visual perception and its relationship with effective data visualization• Understands the relationships between the data models and the visualizations | • Combines aspects of user experience (interaction design, user research, usability evaluation) with data visualization to create dynamic solutions for solving problems by end users• Capable of articulating the science behind the data visualizations used to tell a story | • In-depth understanding of the state-of-the-art tools for data visualization and applications of data visualization in the oil and gas industry• Widely experienced in integrating advanced data visualization and extensive industry knowledge on multiple business-related problems• Internally and externally recognized as an advanced expert in data visualization; directs company-wide standards and strategies, influences external decisions |

## Potential Meaningful Experiences (Examples of opportunities to exhibit this skill)

|  |  |  |  |
| --- | --- | --- | --- |
| Level 1 | Level 2 | Level 3 | Level 4 |
| • Successfully completed an internal or vendor course on a specific data visualization program• Created tables and graphs using commercial software or internally developed applications• Used and evaluated complete data visualization solutions created by others | • Successfully completed undergraduate, online, or internal courses on general data visualization• Independently created a complete set of data visualizations for at least one business project• Been involved with the entire life cycle of a data analysis project, including data collection and QC, problem definition, visualization development, user feedback, deployment, and business application | • Used combinations of advanced data visualization tools and methods to solve multiple complex problems• Demonstrated publishable or patentable applications of data visualization methods to industry or business problems• Led a project, evaluated work performed by others, and acted as a consulting resource outside immediate work group | • Active in the external data visualization community (e.g. invited talks, conference session chairs, peer reviewer for scientific journals)• Provided multidisciplinary leadership, mentorship, and technical support for data visualization across ExxonMobil’s organizations• Recognized innovator in the field – authored multiple external publications / internal reports / patent applications, developed new techniques and/or applications |

|  |  |  |  |
| --- | --- | --- | --- |
| Training Map  Level 1 | Level 2 | Level 3 | Level 4 |
| • Data and Analytics University• Data Design and Storytelling for Humans• Foundational Data and Analytics• Tableau Training and Toolkit• Excel Power Query and Power Pivot Overview | • Tableau Desktop I and II (Accelerated)• Analysis for Office (Basic)• Intro to Statistics• Data Science 101• Analytics with JMP• Tableau Visualization Best Practices (Visual Analytics)• Big Data and Analytics• Introduction to Python, Data Science | • Statistics in Practice• Analysis for Office (Advanced)• Machine Learning with MATLAB• Tableau Desktop III Advanced | • Experience Speaking (at) or Leading Conferences |

## Job Roles Associated with this Skill (Career Community / Job Family / Job Role)

Level 1

Research & Technology  
 • RT-Computational Sciences  
 • Data Science Technologist

Level 2

Research & Technology  
 • RT-Computational Sciences  
 • Advanced Data Science Technologist

Level 3

Research & Technology  
 • RT-Computational Sciences  
 • Expert Data Science Technologist

Level 4

Information Technology  
 • IT-Analytics  
 • Business Intelligence

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