

# UW HEALTH JOB DESCRIPTION

## Data Scientist III

Job Code: 330093	FLSA Status: Exempt	Mgt. Approval: J. Long	Date: July 2021
Department: Enterprise Analytics		HR Approval: N. Lazaro	Date: July 2021

### JOB SUMMARY

The UW Health Data Scientist is constantly pushing the boundary of how healthcare's most important questions and problems can be answered using data. The Data Scientist uses everything at their disposal, starting with large data sets and varied types of structured and unstructured data and applying a range of techniques including statistical, machine learning, and natural language processing, to discover, explore, and uncover, patterns and insights and distill them into readily consumable formats and visualizations. Ultimately, the Data Scientist is responsible for doing whatever is necessary to turn data into actionable, data-driven insights that enhance the delivery of clinical care and clinical decision-making.

The Data Scientist works closely with machine learning engineers, front-line clinicians, stakeholders, informaticists, and researchers, while employing a robust knowledge of healthcare, to deliver the right solution. The Data Scientist is the scientist who performs experiments and conducts learning to identify the best algorithms and solutions. The Data Scientist has a bias towards actionable insights in the name of "getting data science into the system".

The Data Scientist is conscious of advancing the data science maturity of UW Health and defining and showing how data science supports the organization's overall mission and vision.

The Data Scientist III possesses advanced technical data science expertise. The Data Scientist III executes differentiated or expert solutions in an established problem space. The Data Scientist III defines the technical work in one or more areas of expertise. The Data Scientist III leads team level projects & initiatives to drive improvement and value.

### MAJOR RESPONSIBILITIES

#### Solution Development and Delivery:

Use data to answer questions and solve problems; uncover insights and patterns in complex data, using complex data and new types of data and methods

Develop predictive and statistical models, insights, patterns, visualizations, that can be used to improve decision making in and improve clinical operations with the focus of creating actionable insights to "get data science into the system". Execute differentiated, expert solutions in a known problem space.

#### Process and Standards

Prescribe or define the technical work of others in area(s) of expertise. Contribute to and establish technical standards.

#### People:

Deliver and communicate data science solutions, findings, and statistical concepts, to leaders and stakeholders.

Work on a cross-functional team to design and deploy solutions in production software and systems using agile principles and agile scrum methodologies.

Hold team-level responsibilities and leads the team in medium & large-scale projects.

Formally teach and mentor IS staff in areas of expertise and data science.

Gives IS department presentations and participates in IS-wide working groups.

#### Technical Leadership:

Function as the department-level expert for specific domains in data science. Review the technical work of others.

**ALL DUTIES AND REQUIREMENTS MUST BE PERFORMED CONSISTENT  
WITH THE UW HEALTH PERFORMANCE STANDARDS.**

### JOB REQUIREMENTS

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Education	Minimum	Master's degree in Computer Science, Statistics, Data Science, or relevant quantitative Engineering field (Six (6) years of combined education (e.g. Bachelor's degree) and work experience may be considered in lieu of Master's degree)
	Preferred	Doctorate degree in Computer Science, Statistics, Data Science, or relevant Engineering fields
Work Experience	Minimum	None
	Preferred	<ul style="list-style-type: none"> <li>• 3 years of data science or machine learning engineering experience including delivering high-quality data science solutions to stakeholders</li> <li>• 3 years of experience with data and statistical analysis preferably with large data sets or unstructured data (free text, images, machine or IoT)</li> <li>• 2 years of experience in healthcare (provider or payer)</li> </ul>
Licenses & Certifications	Minimum	None
	Preferred	<ul style="list-style-type: none"> <li>• Epic certifications in Cogito</li> <li>• Epic badge or certification in Cognitive Computing Platform</li> </ul>
Required Skills, Knowledge, and Abilities		<p>Intermediate competency in all four of the following and advanced proficiency in at least one:</p> <p><u>1. Working with "big data" including large volumes of data, unstructured data, streaming data, data veracity:</u></p> <ul style="list-style-type: none"> <li>• Skilled at working with unstructured data such as text, streaming, or machine data, and working with "big" data technologies like Apache Spark</li> <li>• Solid understanding of data structures, data modeling, dimensional modeling</li> <li>• Skilled in creating visualizations of data such as ggplot, matplotlib</li> </ul> <p><u>2. Coding techniques, best practices, and mindset, for data science:</u></p> <ul style="list-style-type: none"> <li>• Skilled at writing robust code in Python, R, Spark, SQL including notebook-based workflows (Jupyter, R, Spark) and creation of reusable code packages and libraries, and at version control (GitHub)</li> <li>• Skilled at testing code including techniques best practices used in software testing</li> </ul> <p><u>3. Statistics theory and techniques used in data science:</u></p> <ul style="list-style-type: none"> <li>• Strong knowledge of math, probability, statistics, and algorithms, such as linear algebra, Bayesian statistics</li> <li>• Skilled in using statistical methods (such as boosting, generalized linear models/regression, random forests, social network analysis) and in using machine learning techniques (such as artificial neural networks, clustering, and decision tree learning)</li> </ul> <p><u>4. Healthcare subject matter expertise:</u> Subject matter expertise in one or more areas such as hospital operations, ambulatory operations, population health management, performance measure development, healthcare administration, patient satisfaction, strategic planning, labor and productivity analytics, financial modeling, cost accounting, revenue cycle management, and survey design/development</p> <p><u>Solution Development and Delivery:</u> Experience with delivering differentiated and high-quality data science solutions to stakeholders while taking ownership of the overall success of the solution Outstanding analytical and problem-solving abilities Able to identify and leverage the most appropriate and best statistical methods, data science techniques, or technological capabilities, among the approaches used at the organization. Able to adapt and improve existing approaches to more suitably solve the current problem.</p> <p><u>Process and Standards</u> Ability to synthesize feedback and go beyond specific suggestions to improve Defines technical specifications and requirements. Proactively identifies risks before work occurs.</p> <p><u>People:</u> Drives cross-functional areas including leaders and stakeholders</p>

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	<p>Ability to work in a team Ability to work in agile, iterative frameworks</p> <p><u>Communication, Mentoring, and Teaching:</u></p> <ul style="list-style-type: none"> <li>• Skilled in written and verbal communication</li> <li>• Ability to mentor and formally teach data science concepts, techniques, and mindset</li> </ul> <p><u>Technical Leadership:</u> Intermediate proficiency in leadership including technical leadership. Competency includes:</p> <ul style="list-style-type: none"> <li>• Leads with integrity. Maintains strategic orientation. Demonstrates business and financial acumen. Champions innovation. Manages execution. Leads and develops people.</li> <li>• Intermediate proficiency with technical leadership: Sound technical judgment including decision-making amidst ambiguity, trade-offs, and constraints. Fluency at multiple levels in the technical stack. Balances long-term technical vision against short-term deliverables. Promotes elegant design and reduces unnecessary technical complexity. Works backwards and drives towards meaningful requirements. Staying current with a solid technical understanding of technology trends.</li> </ul>
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### PHYSICAL REQUIREMENTS

**Indicate the appropriate physical requirements of this job in the course of a shift.** *Note: reasonable accommodations may be made available for individuals with disabilities to perform the essential functions of this position.*

Physical Demand Level	Occasional Up to 33% of the time	Frequent 34%-66% of the time	Constant 67%-100% of the time
<b>X</b> <b>Sedentary:</b> Ability to lift up to 10 pounds maximum and occasionally lifting and/or carrying such articles as docket, ledgers and small tools. Although a sedentary job is defined as one, which involves sitting, a certain amount of walking and standing is often necessary in carrying out job duties. Jobs are sedentary if walking and standing are required only occasionally and other sedentary criteria are met.	<b>Up to 10#</b>	<b>Negligible</b>	<b>Negligible</b>
<b>Light:</b> Ability to lift up to 10 pounds maximum and occasionally lifting and/or carrying such articles as docket, ledgers and small tools. Although a sedentary job is defined as one, which involves sitting, a certain amount of walking and standing is often necessary in carrying out job duties. Jobs are sedentary if walking and standing are required only occasionally and other sedentary criteria are met.	<b>Up to 20#</b>	<b>Up to 10#</b> or requires significant walking or standing, or requires pushing/pulling of arm/leg controls	<b>Negligible</b> or constant push/pull of items of negligible weight
<b>Medium:</b> Ability to lift up to 50 pounds maximum with frequent lifting/and or carrying objects weighing up to 25 pounds.	<b>20-50#</b>	<b>10-25#</b>	<b>Negligible-10#</b>
<b>Heavy:</b> Ability to lift up to 100 pounds maximum with frequent lifting and/or carrying objects weighing up to 50 pounds.	<b>50-100#</b>	<b>25-50#</b>	<b>10-20#</b>
<b>Very Heavy:</b> Ability to lift over 100 pounds with frequent lifting and/or carrying objects weighing over 50 pounds.	<b>Over 100#</b>	<b>Over 50#</b>	<b>Over 20#</b>
List any other physical requirements or bona fide occupational qualifications:			