

Data Scientist, Machine Learning

Cotiviti is looking for an industry leading Data Scientist, focused on machine learning solutions, to join a revolution in Healthcare Technology and build value-oriented, production level machine learning solutions. This role is not for the research oriented data scientist, but rather should be of interest to those that want to apply their knowledge and experience to real world problems, and seek to utilize Artificial Intelligence and Machine Learning to reduce the cost of healthcare and improve quality and outcomes. Cotiviti’s Machine Learning and Strategic Analytics team consists of data scientists, engineers and data analysts dedicated to developing and implementing robust, scalable, value-based solutions on our proprietary machine learning platform that uses a blend of best in class vendor solutions, together with custom built capabilities where gaps in the market exist. With access to a dedicated Hadoop based multi-node cluster the team can access a vast amount of structured and unstructured data including claims, membership, physician demographics, medical records and others to begin to solve some of the most pressing healthcare issues of our time. As a Data Scientist at Cotiviti you will be given the opportunity to work directly with a team of healthcare professionals including analysts, clinicians, coding specialists, auditors and innovators to set aggressive goals and execute on them with the team. This is for an ambitious technologist with the guts, flexibility, and personal drive to succeed in a dynamic environment where you are judged based on your impact to business outcomes.

**Who You Are**

* *Curious:* Never satisfied until to understand all angles of a problem you do not like to leave questions unanswered and are ready to pull on threads to seek out bigger opportunities.
* *Creative:* You constantly invent and try new approaches to solving problems, which often times have never been applied in such contexts before.
* *Practical:* You explore theories with an eye to the real world application to the business and the potential for improving performance for clients and customers. That means you are ready to walk away from opportunities that are not going anywhere or will not deliver the required value.
* *Focused:* You're intent on designing and testing a technique over periods of days and weeks, discovering what is successful and what should be optimized further. You start with a value-oriented goal and you do not get side-tracked by technical ‘shiny objects’ that do not achieve that goal. At Cotiviti, value delivered is judged more than effort expended.
* *Determined:*  You will have both the challenge and opportunity to help design and build our machine learning capabilities from the ground-up, and therefore must be comfortable as both a team member and a leader in our data science effort.

**Job Responsibilities**

As a Data Scientist in the Machine Learning and Strategic Analytics team within Cotiviti you will be responsible for delivering solutions that help our clients identify payment integrity issues, reduce the cost of healthcare processes, or improve the quality of healthcare outcomes. You will work as part of a team but be individually responsible for the delivery of value associated with your projects. You will be expected to follow processes and practices that allow your models to be incorporated into our machine learning platform for production execution and monitoring, however, initial exploratory data analysis allows for more flexible experimentation to discover solutions to the business problems presented.

* Work with a Data Science Team Lead, data science management, business operations and product management to assess the potential value and risks associated with business problems that have the potential to be solved using machine learning and AI techniques.
* Develop an exploratory data analysis approach with the team lead to verify the initial hypothesis associated with potential AI/ML use cases.
* Once verified, develop in depth EDA to create models that meet or exceed the thresholds required to deliver on the use case.
* Develop requirements for features required in your final model and interact with the feature library team to get your features built into the library.
* Document your approach, thinking and results in standard approaches to allow other data scientists to take over your work.
* Prepare your final trained model using features within the feature library and develop a validation test set for QA.
* Work with production operations to deploy your model into production and support them in monitoring model performance.
* Participate in other data science teams collaborating with your peers to support their projects
* Participate in knowledge sharing sessions to bring new insights and technologies to the team.
* Participate in design sessions to continuously develop and improve the Cotiviti machine learning platform

### Required Skills

**Applied Machine Learning:** Application of a variety of machine learning techniques to increase identification of payment integrity issues for our clients, reduce the cost of auditing processes, or increase the quality of care and outcomes for our client’s members. Must have implemented machine learning solutions within production environments at scale

**Big Data Analysis:** Strong ability to manage and analyze data in a Hadoop environment using a variety of scripts, including Scala/Spark, Python, and others.

**Reasoning and Problem Solving:** Ability to actively and skillfully conceptualize, apply, analyze, synthesize, and/or evaluate information gathered from, or generated by, observation, experience, reflection, reasoning, or communication, as a guide to belief and action

**Consulting:** Demonstrated ability to make and gain acceptance of data-driven recommendations made to business owners. Strong ability to appropriately summarize and effectively communicate complex concepts & varied data sets to inform stakeholders, gain approval, or prompt actions; Applies to multiple audiences ranging from the analyst to executive level; Includes oral & written communication and multimedia presentation

**Statistical Analysis:** Applies statistical methodology to solve business problems; appropriately interprets meaning from results

**Business Knowledge:** Strong understanding of the tenets of health insurance, the managed care model, industry coding/policy standards, the claim adjudication process, and issues related to fraud waste and abuse; Ability to apply this knowledge to the development & evaluation of new initiatives and support leading the team strategy toward best practices.

**Financial Analysis:** Ability to understand, generate and evaluate healthcare utilization, unit cost and medical cost trends. This includes understanding levers that effect healthcare cost, such as contracting, networks, policies, benefit structures, and product design. Ability to draw conclusions and make recommendations based on financial data

### Required Competencies

**Communicates With Impact:** Presents information and ideas in a thoughtful and compelling manner. Is clear and concise in verbal and written communications. Shares information freely and speaks openly and honestly. Seeks to understand the perspectives of others.

**Drives and Delivers Results:** Sets clear priorities, takes action, stays focused, and overcomes barriers to deliver expected results.

**Applied Reasoning:** Evaluates critical information needed to understand problems, determine probable causes, and develop workable solutions. Accurately assesses the costs, benefits, and risks associated with alternative courses of action and makes high quality and timely decisions.

**Champion Change**: Sees emerging patterns and opportunities. Adapts quickly and easily to new information, changing conditions or unexpected events. Facilitates and communicates change across the team or organization to drive adoption.

**Innovation**: Seeks to find new ways to solve a problem that have not been considered before. Challenges the status quo and is able to research and demonstrate that new approaches are possible and preferable.

**Lives Our Values**: Behaves in a way that consistently demonstrates commitment to Cotiviti values of openness, accountability, customer-driven and collaboration.

**Information Security and Compliance**: Demonstrates understanding of Cotiviti policies, procedures, and external regulatory requirements, and performs duties in accordance with such regulatory requirements. Assures confidentiality and security of all data. Demonstrates the skills, knowledge, and ability to ensure that our environment is a safe one, complying with industry standards.

**Basic Qualifications**

MS or PhD. Degree in relevant discipline (Math, Statistics, Computer Science, Engineering or Health Sciences)

* 3+ years’ experience in advanced analytics
* 3+ years’ experience in a data architecture role with deep understanding of architecture principles & best practices
* Experience delivering solutions in an Agile environment
* Ability to work independently as well as collaborate as a team
* Working knowledge of the Hadoop ecosystem (including creating and debugging)
* Must have flexibility and willingness to participate in the work processes of an international organization, including conference calls scheduled to accommodate global time zones
* Professional with ability to properly handle confidential information
* Ability to work well independently and in a team environment
* Ability to handle multiple tasks, prioritize and meet deadlines
* Ability to work within a matrixed organization
* Exhibits behaviors consistent with Cotiviti Values
  + Integrity
  + Our Clients
  + Our Team
  + Accountability
  + Performance Excellence
  + Continuous Improvement

**Additional Requirements**:

* Proficiency in all required skills and competencies above
* Proficiency in fully architecting and executing complex analytical backend
* Proficiency with Node.js and SQL; Expert proficiency in one or more programming languages such as Scala/Spark, Python, et al; Expert proficiency in at least one statistical modeling program like R, MATLAB, or SAS
* Experience in machine learning, artificial intelligence and/or artificial neural networks
* Proficiency in applying various mathematical and statistical models to include, but not limited to: Discrete Event Simulation, Factor Analysis, Genetic Algorithms, Bayesian Probability Models, Hidden Markov Models and Sensitivity Analysis
* Ability to setup and maintain database for extremely large datasets using current database technologies (ex. Hadoop)
* Strong experience in using application programming interfaces (API)
* Proficient in the big data ecosystem with familiarity with Hadoop, Yarn, Spark, and/or Storm
* Proficient in at least one big data store, for example: hBase, Cassandra, Hive, etc.
* Demonstrated technical abilities to engineer products that large datasets, with tools that may include: Cluster computing, Grid Computing, Graphical Processing Unit Computing
* Commercial Cloud Systems such as Amazon Elastic Cloud Compute EC2