 

**JOB DESCRIPTION - DESCRIPTION D’EMPLOI**

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| **Position Number - Numéro du poste**  Click here to enter text. | **Position Title – Titre du poste**  Junior Data Analyst Scientist |
| **Job Number – Numéro d'emploi**  679-104 | **Position Group and Level – Groupe et niveau du poste**  EC-03 |
| **Department/Agency – Ministère/organisme**  Statistics Canada | **Effective Date – Date d'entrée en vigueur**  2019-09-03 |
| **Organizational Component – Composante organisationnelle**  Data Science Division | |
| **Geographic Location – Lieu géographique**  *Ottawa* | **National Occupation Code – Code national des professions**  21211 Data Scientists |
| **Supervisor Position Number –**  **Numéro du poste du surveillant**  679-101 | **Supervisor Position Group and Level –**  **Groupe et niveau du poste du surveillant**  EC-07 |
| **Supervisor Position Title – Titre du poste du surveillant**  Manager, Data Science | |
| **Language Requirements – Exigences linguistiques**  Unilingual | **Linguistic Profile – Profil linguistique**  English or French |
| **Communication Requirements – Exigences en matière de communication**  Personal services | |
| **Security Requirements – Exigences en matière de sécurité**  Reliability | |

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| **Employee’s Statement – Déclaration de l’employé** | |
| I have been given the opportunity to read and comment on the content of this job description.  J’ai eu l’occasion de lire et commenter le contenu de cette description d’emploi. | |
| Name of Employee – Nom de l’employé  Click here to enter text. | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_  Signature Date |
| **Supervisor’s Statement – Déclaration du surveillant** | |
| This job description accurately describes the work assigned to this position.  Cette description d’emploi décrit adéquatement le travail assigné à ce poste. | |
| Name of Supervisor – Nom du surveillant  Click here to enter text. | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_  Signature of Supervisor – Signature du surveillant Date |
| **Authorization – Approbation** | |
| Name of Manager – Nom du gestionnaire  Click here to enter text. | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_  Manager’s Signature – Signature du gestionnaire Date |

**Organizational Context – Contexte organisationnel**

As part of Statistics Canada’s [Data Science Strategy](http://www128.statcan.ca/w128-01/w128-01_013-eng.html), by building a strong analytics capability, the right skills and tools, and by enabling governance, Statistics Canada aims to leverage data and more advanced analytics technologies and techniques—including artificial intelligence, predictive analytics, text analytics and deep learning—to gain new insights and to inform decision-making.

Data scientists use data to identify and solve complex business problems. They have an interdisciplinary focus, using techniques and knowledge from a range of disciplines (for example, statistics, mathematics, predictive analytics, and machine learning) and are generally part of multidisciplinary project teams involving data science engineers, business owners, business analysts, project managers, software engineers/designers, and others.

**Client Service Results – Résultats axés sur le service à la clientèle**

Under the direction of an analyst or team lead, **participation in** the conduct of studies and/or projects to solve business problems, support the integration of existing data systems to create business intelligence solutions, application of existing technologies to extract more value from existing data, and supports the application of data science techniques to automate tasks and support the work of business clients.

**Key Activities – Activités clés**

Supports the conduct of studies and/or projects using quantitative statistical data analysis methods, such as: data wrangling, validation, mining, and visualization (in R/RStudio, Python, SQL, Java, JavaScript or another software), as well as software development, application of machine/deep learning and artificial intelligence techniques for problem solving.

Analyses statistical data using established data management methods. Drafts summary analysis of qualitative and/or quantitative data and presents findings and recommendations to colleagues and/or team members.

Organizes and consolidates information relevant to the defined objectives of studies. Establishes and maintains work files.

Attends Departmental meetings, and interdepartmental and stakeholder meetings (as required), to gather data/information and to optimize the business value of data.

Participates in project teams and working groups to support data management, research and analysis, and other unit activities.

**Skill – Habiletés**

Communication skills are required to maintain networks across the branch and the federal community of practice to share best practices in advanced analytics.

Provides advice, information and guidance to data users and clients regarding governance concepts used to protect and optimize the utility of Statistics Canada’s data assets.

Writing skills are necessary to draft clear and simple analytical reports, briefings and presentation material using data visualization tools for managers and clients with varying levels of knowledge and understanding of data science. Information must be impartial and clearly presented to minimize the potential for misinterpretation.

As assigned, discusses data requirements with operations managers responsible for data collection, other subject matter and systems specialists, clients or service providers to comprehend and elaborate the conditions within which statistical development and operations will occur.

There is a requirement to liaise with other subject matter specialists and users to develop and translate subject matter requirements into specifications for data development, and to suggest  
improvements to ongoing programs.

The work requires knowledge of data science and its life cycle, including data capture and acquisition, data extraction, warehousing, cleansing, processing, mining, clustering, modeling, summarization, reporting, visualization, business intelligence, and exploratory/ confirmatory, predictive analysis, regression, text mining, and qualitative analysis. This knowledge is required to optimize the use of the Statistics Canada’s data assets and to provide leading edge thinking and methodologies to data analytics.

The work requires knowledge of the theories, principles, practices, and methodologies of  
statistics and mathematics in order to conduct the requisite modelling that provides meaningful information for policy and program decisions by management.

Knowledge of techniques and methods of information collection and analysis, evolving information sources, survey methodologies, risk assessment as it relates to data, impact and quantitative analysis in order to assess the quality of data and identify and mitigate risks to its integrity.

Data literacy skills are needed to derive meaningful information from data, including the knowledge needed to read, analyze, interpret, visualize and communicate data, as well as understand the use of data in decision-making. Data literacy includes data stewardship and the ability to assess the quality of data, protect and secure data, and safeguard their responsible use. This is needed to develop briefings, presentations and dashboards that contain valid and reliable data.

Knowledge of theories, principles and techniques of research is required including; hypothesis formulation and validation; model design and interpretation, experimental and comparative study designs; surveys, simulations, file reviews and case studies; qualitative and quantitative analysis including statistical sampling and cost benefit analysis; computer assisted analysis packages; and the strengths and weaknesses of these methods, tools and techniques in order to recommend and select project methodologies.

The work requires knowledge of the mandate, vision, values, culture, organization, legislation, programs, business lines and operations of Statistics Canada. This is needed to ensure the alignment of the data analytics strategy with the department’s business intelligence requirements.

The work requires knowledge and understanding of the governance structures of Statistics Canada’s partnerships in order to assess data provided by other levels of government for validity and integrity.

Knowledge of Departmental, Central Agencies and Library and Archives Canada policies pertaining to the handling, tracking, filing and storing of sensitive and confidential material and information holdings, including electronic records.

**Effort – Efforts**

Physical effort as required in a standard office environment where there is a requirement to sit for extended periods of time when researching information and reviewing documents. There is flexibility to change work activities.

Sensory effort as required in a standard office environment where there is a requirement to use a computer monitor to read, write, and review data and documentation. There is flexibility to change work activities.

**Physical Efforts**

The work involves prolonged periods of sitting and extended eye focus when reviewing documents or data, attending meetings or working on a computer.

**Sensory Efforts**

Hand/eye coordination skills when transferring information from reports to other analytical tools.

Eye focus when visually scanning documents and data.

Use of senses is required to detect easily perceived differences between words and/or data.

**Responsibility – Responsabilités**

Judgement is required to conduct non-routine data research, assess the relevance and reliability of the data sources and to organize and consolidate findings. Some judgement is required to select and apply established methods, as appropriate.

The data preparation and analysis supports the work of studies and projects and the development of reports and recommendations presented to management by senior data analysts. The results can impact the quality of the data analysis used by more senior analysts or project leaders.

Judgement to discuss business information without divulging confidential information.

Participates on project teams and working groups and provides assistance to new employees, as required.

May perform administrative tasks to support the unit in the conduct of studies, the organization and coordination of meetings and other unit activities.   
  
Personal use and care of a computer and related software; standard office equipment, furnishings and supplies; reference material and policy documents; and multimedia equipment. May handle sensitive materials.

Uses taxi chits and travel credit cards for authorized business purposes.

Conducts research and collects data from a variety of sources, aggregating it so that it provides valid and reliable data on which to perform quantitative, retrospective and predictive analysis that measures the impact of the Department’s programs to support evidence-based policy and program decisions.

Apply data science principles including data capture and acquisition, data extraction, warehousing, cleansing, modeling, summarization, reporting, visualization, and exploratory/confirmatory, predictive analysis, regression, and qualitative analysis, to clarify the implications of analyses for the department’s policies and programs.

Review data collections and information sources to determine the usefulness of existing sources and assess the feasibility and impact of new or modified methodologies, to identify and evaluate problems in the processing, editing, compilation and presentation of analytical materials.

Participate in research and analytics projects for the design, development and implementation of analytic techniques, including artificial intelligence models and data visualization to enhance Statistics Canada’s data assets and support the evolution of analytics, reporting processes and data governance capabilities that generate more meaningful data in support of both operational and strategic, and program and policy decision making.

Create and test data and mathematical models for bias, of particular importance in predictive and prescriptive analytics.

**Working Conditions – Conditions de travail**

The work is performed in an open office environment with exposure to glare from a computer screen, noise from conversations, telephones, and equipment in the immediate area.

The work is occasionally performed under conditions of short time pressures, changing and unpredictable priorities, and multiple and conflicting demands that can result in stress and extended work hours. Travel may be required.

The work is performed in an open office environment where there is exposure to noise such as conversations, telephones and printers. The work involves spending long periods in front of a computer screen, which entails daily repetitive exposure to monitor glare.

Some exposure to changing and competing deadlines, time pressures, lack of control over the pace of work and conflicting interests of managers and senior analysts.

There may be a requirement to attend meetings in different buildings/locations. Occasional travel may be required.