UN Task Team on Training, Competencies and Capacity Development

Webinar – UN Regional Hub for Africa, 08 July 2024

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Agenda

- Overview of the Task Team on Training, Competencies and Capacity Development
- UN Big Data Competency Framework
- UN Big Data Maturity Matrix
- UN Big Data Training Catalogue
- UN Big Data E-Learning Hub
- Q&A

UNBigData

UN COMMITTEE OF EXPERTS ON BIG DATA AND DATA SCIENCE FOR OFFICIAL STATISTICS

- REGIONAL HUB BRAZIL
- REGIONAL HUB INDONESIA
- REGIONAL HUB RWANDA/UNECA
- REGIONAL HUB UAE
- GLOBAL HUB CHINA
- GLOBAL HUB SPAIN

- UN GLOBAL PLATFORM
- UN GLOBAL PLATFORM COMMITTEE
- TECHNICAL SUPPORT

- CEBD ADVISORY BOARD
- CEBD BUREAU
- TASK TEAMS

- SCIENTIFIC COMMITTEE

- EARTH OBSERVATION DATA
- MEASURING RURAL ACCESS
- AIS DATA
- SCANNER DATA
- MOBILE DATA
- PRIVACY ENHANCING TECHNOLOGIES
- FACILITATION OF ACCESS TO PRIVATELY-HELD DATA
- **TRAINING, COMPETENCIES & CAPACITY DEVELOPMENT**
- BIG DATA AND SDG

UN Task Team Overview

- Created in 2019

- Members from NSOs and international organisations
  - brings a wide range of knowledge & expertise to the group

- Has an overarching nature
  - Supports other UN Big Task Teams and UN Regional Hubs

Task Team's Objectives

- Develop methods and tools to support Individuals, NSOs and Regional Hubs to:
  - Identify and understand their knowledge & skills gaps
  - Provide access to online big data/data science training courses – to fill knowledge & skills gaps – at all levels of ability
  - Support assessments of readiness for using big data at NSO or project level (level of maturity)
  - Support recruitment at NSOs

UN Big Data Competency Framework

Ceri Regan
Programme Manager for International Capability

On behalf of the Task Team on Training, Competencies, and Capacity Development

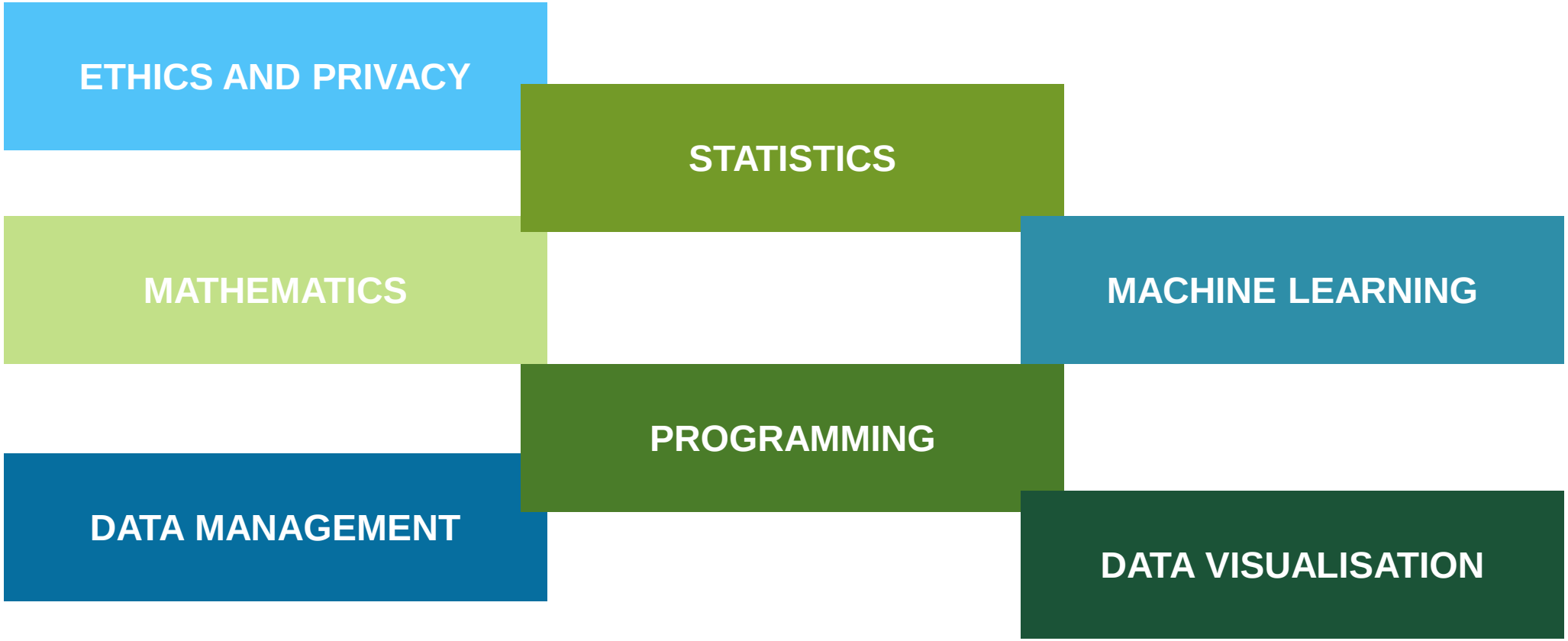
UN Big Data Competency Framework

- General guidance on big data/data science knowledge & skills
- Knowledge, skills & attitudes for applying machine learning to big data

Dimension 1			
Name of the area	**Machine Learning (ML)**		
Dimension 2			
Competence title and description	To possess a combination of knowledge and skills in developing self-learning algorithms, including: 1) Programming: data structures (stacks, queues, multi-dimensional arrays, trees, graphs, etc.), algorithms (searching, sorting, optimization, dynamic programming, etc.), computability and complexity (P vs. NP, NP-complete problems, big-O notation, approximate algorithms, etc.) 2) Data modelling: finding useful patterns (correlations, clusters, eigenvectors, etc.) and/or predicting properties of previously unseen instances (classification, regression, anomaly detection, etc.) 3) Model evaluation: e.g. validation accuracy, precision, recall, F1-score, MCC, MAE, MAPE, RMSE, PCC2 4) Application of ML algorithms and libraries: identification of a suitable model (e.g. decision tree, nearest neighbor, neural network, SVM, etc.), selecting a learning procedure to fit the data (e.g. linear regression, gradient descent, genetic algorithms, bagging, boosting), controlling for bias and variance, overfitting and underfitting, missing data, data leakage, among others 5) Understanding the digital product the ML solution will constitute part of		
Dimension 3	A – Foundation	B - Intermediate	C – Advanced
Proficiency levels	Demonstrate knowledge and understanding underlying assumptions of basic probability theories and most common statistical methods and machine learning techniques, programming skills in one of the ML-related applications.	Demonstrate knowledge and understanding of applying probability theories and variety of the statistical methods and machine learning techniques. May have developed further programming skills in at least two of the packages and ability to apply them to resolve ML-related analytical problem.	Demonstrate knowledge, understanding of probability theories and most of the statistical methods and a variety of ML techniques. Demonstrates the ability to apply various ML techniques in various scenarios, and is able to advise and lead others. Have the understanding and skills to fit the ML solution into a system of product/service at hand.
Dimension 4			
Knowledge examples	• Understand Bayes rules • Understand the assumptions underlying model evaluation (quality) indicators, e.g. accuracy, recall, F1 score • Understand the differences between neural networks and SVM		
Skills examples	• Develop a statistical model and fit relevant ML techniques to the analytical problem at hand (e.g. classification and coding, data edition and imputation, image recognition optimization process) • Apply adequate model evaluation indicators		
Attitude examples	• Proactive in searching for optimization opportunities in statistical production with the use of ML • Monitor predictive performance of the employed model to ensure its quality control, being up to date and ability to generate valid results		

Screen shot of Machine Learning section of UN Big Data Competency Framework

UN Big Data Competency Framework – *core competencies*



UN Big Data Competency Framework – *generic skills*

Indispensable and inherent part of Big Data competencies catalogue

Span all stages of the statistical production process

*Not the main focus of this Competency Framework

UN Big Data Competency Framework – *generic skills*

- AGILE PROJECT MANAGEMENT
- ADAPTABILITY
- BUSINESS ACUMEN
- COMMUNICATION
- CRITICAL THINKING
- CURIOSITY
- PRODUCT UNDERSTANDING
- STORY TELLING
- TEAM PLAYER

UN Big Data Competency Framework – *potential applications*

- Inspire thinking about big data capacity building process
- Identify knowledge gaps
- Develop employee development paths
- Recruit and train staff
- Design organisational data science development programs
- Evaluate staff attainments
- …..

UN Big Data Competency Framework – *a guide*

- Not every data specialist must possess all skills listed in the framework
- Different NSOs will run different projects that require different skills at different times
- Different data specialists require different skills & knowledge (e.g. data analyst, data scientist, data engineer, etc)

UN Big Data Maturity Matrix

Christophe Bontemps
UN Statistical Institute for Asia and Pacific
On behalf of the Task Team on Training, Competencies and Capacity Development

UN Big Data Maturity Matrix

In a nutshell

WHAT?

- Self-assessment tool
  - Provides a **multi-dimensional** snapshot of Big Data Maturity of an NSO to deliver a project

WHO?

- "***NSOs***" willing to identify strengths and weaknesses on different "dimensions" of Big Data projects

WHY?

- Help NSOs produce a **development plan** (road map) to improve "Maturity" and deliver on a project requirements

UN Big Data Maturity Matrix What?

Big Data four dimensions:

- **Legal** Frameworks
- **IT** Infrastructure
- **Human Resources**
- **Applications**/projects

Multi-dimensional self-assessment tool

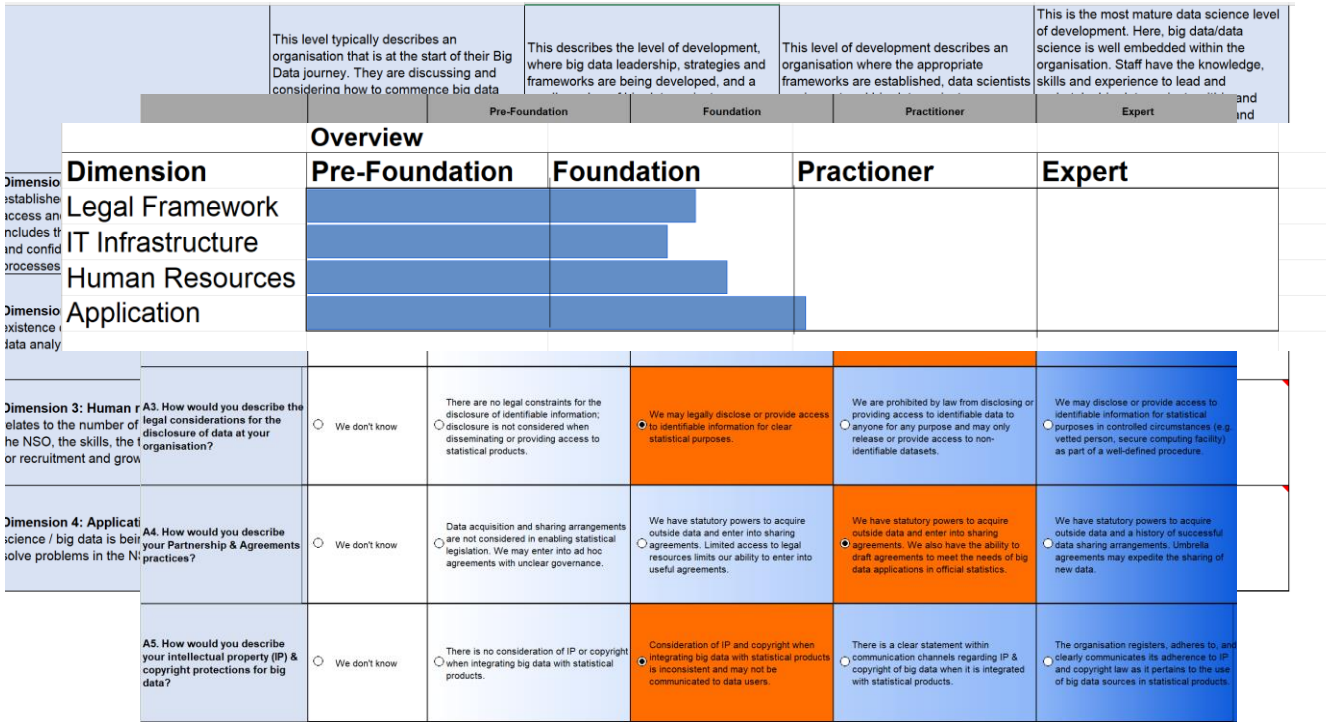
	This level typically describes an organisation that is at the start of their Big Data journey. They are discussing and considering how to commence big data projects as well as the strategies that they need to put in place at the organisation to make it happen.	This describes the level of development, where big data leadership, strategies and frameworks are being developed, and a small number of big data projects are underway to possibly investigate the use of different data sources.	This level of development describes an organisation where the appropriate frameworks are established, data scientists are in post and big data projects are underway and are being managed in a strategically coordinated way.	This is the most mature data science level of development. Here, big data/data science is well embedded within the organisation. Staff have the knowledge, skills and experience to lead and undertake big data projects within and across teams. Training, coaching and mentoring is available internally, and the organisation may also offer it externally to others.
Dimension 1: Legal framework – how well established is the legal framework for data access and data sharing at the NSO. This includes the safeguards to maintain privacy and confidentiality of big data and the processes to analyse it.	○ Pre-Foundation Level	◉ Foundation Level	○ Practitioner	○ Expert
Dimension 2: IT infrastructure – the existence of an IT infrastructure to enable big data analytics in a secure environment.	○ Pre-Foundation Level	◉ Foundation Level	○ Practitioner	○ Expert
Dimension 3: Human resources – this relates to the number of data science posts at the NSO, the skills, the teams and the future for recruitment and growth.	○ Pre-Foundation Level	○ Foundation Level	◉ Practitioner	○ Expert
Dimension 4: Application – how data science / big data is being applied / used to solve problems in the NSO	○ Pre-Foundation Level	◉ Foundation Level	○ Practitioner	○ Expert

Big data infrastructure is fully integrated into the IT environment, is scalable, and can cope with increasingly complex projects. Data security and confidentiality are fully integrated, and analysts can easily access the data as part of normal operations. Data security measures are in place for the import and export of big data.

A mature development process is established that combines a codebase with big data pipelines for regular statistical processes.

4 levels: **Pre-Foundation, Foundation, Practitioner, Expert**

UN Big Data Maturity Matrix
How?



	Pre-Foundation	Foundation	Practitioner	Expert
	This level typically describes an organisation that is at the start of their Big Data journey. They are discussing and considering how to commence big data	This describes the level of development, where big data leadership, strategies and frameworks are being developed, and a	This level of development describes an organisation where the appropriate frameworks are established, data scientists	This is the most mature data science level of development. Here, big data/data science is well embedded within the organisation. Staff have the knowledge, skills and experience to lead and

Overview

Dimension	Pre-Foundation	Foundation	Practioner	Expert
Legal Framework				
IT Infrastructure				
Human Resources				
Application				

A3. How would you describe the legal considerations for the disclosure of data at your organisation?	We don't know	There are no legal constraints for the disclosure of identifiable information; disclosure is not considered when disseminating or providing access to statistical products.	We may legally disclose or provide access to identifiable information for clear statistical purposes.	We are prohibited by law from disclosing or providing access to identifiable data to anyone for any purpose and may only release or provide access to non-identifiable datasets.	We may disclose or provide access to identifiable information for statistical purposes in controlled circumstances (e.g. vetted person, secure computing facility) as part of a well-defined procedure.
A4. How would you describe your Partnership & Agreements practices?	We don't know	Data acquisition and sharing arrangements are not considered in enabling statistical legislation. We may enter into ad hoc agreements with unclear governance.	We have statutory powers to acquire outside data and enter into sharing agreements. Limited access to legal resources limits our ability to enter into useful agreements.	We have statutory powers to acquire outside data and enter into sharing agreements. We also have the ability to draft agreements to meet the needs of big data applications in official statistics.	We have statutory powers to acquire outside data and a history of successful data sharing arrangements. Umbrella agreements may expedite the sharing of new data.
A5. How would you describe your intellectual property (IP) & copyright protections for big data?	We don't know	There is no consideration of IP or copyright when integrating big data with statistical products.	Consideration of IP and copyright when integrating big data with statistical products is inconsistent and may not be communicated to data users.	There is a clear statement within communication channels regarding IP & copyright of big data when it is integrated with statistical products.	The organisation registers, adheres to, and clearly communicates its adherence to IP and copyright law as it pertains to the use of big data sources in statistical products.

- **3** steps to assess a project:
  1. Set goal/target of where the NSO **wants to be** for its project in each dimension.
  2. Answer questions that establish where the NSO's project/team **currently is.**
  3. Receive results about project **gaps.** Self-learn what to do.
  4. Receive **guidance** and training recommendations (TBD)

UN Big Data Maturity Matrix

What are the questions? (example)

Dimension 4: Application – how data science / big data is being applied / used to solve problems in the NSO

	Pre-Foundation	Foundation	Practitioner	Expert
D2. How would you describe the procedures that have been developed in relation to acquiring, processing, and sharing big data in the organisation?	**The organisation has not developed procedures for obtaining, processing, or sharing big data and generally avoids doing so**	**The procedures for acquiring, processing, and sharing big data are newly created each time there is a need.**	**The procedures for handling big data within the organization, including acquisition, are well-documented and available for application to new projects as needed**	**The procedures for handling big data within the organization are incorporated into regular procedures and continually reviewed for efficiency.**

UN Big Data Maturity Matrix

What are the questions?

Dimension 2: IT infrastructure - *the existence of an IT infrastructure to enable big data analytics in a secure environment.*

	Pre-Foundation	Foundation	Practitioner	Expert
B3. How would you describe accessibility to big data sets at your organization?	**Only IT staff can access the data, or analysts access them on an ad hoc basis.**	**Analysts either are unsure how to get the data or access the applications, or each has their own method for accessing the data they need.**	**Analysts need to use multiple processes and/or need to make a service request in order to access the data.**	**Analysts have straightforward access to the data and use it as a part of their normal operations.**

UN Big Data Maturity Matrix Who?

*The work of the Task Team has highlighted the need for a clarification of the questions/answers and on **who** should answer questions*

- Originally, the Maturity Matrix was designed to provide a snapshot at organizational level
  → A high-level representative of an NSO should answer

BUT AT THE PROJECT LEVEL:

- Some dimensions/questions require technical knowledge on the project
  → Needs coordination within an NSO
- Questions are project/data -specific
  - e.g. specific legal framework (MPD), IT infrastructure, ..
- Evolutions of the Maturity Matrix tool to reflect these points
- Maturity Matrix can be used at different levels:

  → Organizational level: “global” Maturity
  → Team/project level: Project Maturity

UN Big Data Maturity Matrix

What now?

- *Work in progress!*
- *Volunteers to use the Maturity Matrix are welcome*
- *Volunteers to help with the Task Team are welcome*
- *New ideas are welcome*

New versions will be developed:

→ *More interactive*

→ *Answer-based feedback*

→ *Answer-based recommendations to reach the target level and help project benefit from trainings using the* Catalogue

UN Big Data Training Catalogue

Ralf Becker (beckerr@un.org) Chief, Statistical Capacity Management Section, UN Statistics Division

What is already available?

- We have seen:
  - Competency Framework – to help individuals identify skills they need to develop to use big data
  - Maturity Matrix – to help National Statistical Offices/Project leads to identify strength, weaknesses, and gaps in their big data readiness

- How can we combine these projects to support individual development needs better?
- Where can individuals look to find training courses, they need to bridge the gap in skills?

UN Big Data Training Catalogue

- Provides a list of courses / materials that can be searched by different criteria

- Allows individuals to identify a *Personalized Learning Path* based on one's current specific circumstances, projects and goals:
  - What is my current role?
  - What topic do I need/want to tackle?
  - What is my current knowledge level?
  - What is my target knowledge level?
  - What training will help me to bridge the gap?

- The Learning Path uses the dimensions of the Competency Framework

Welcome to the Big Data Training Catalog

This application links you to training courses and materials on Big Data-related topics and allows you to define a personal learning path.

United Nations BigData

Search the Training Catalog

The Big Data Training Catalog includes resources (courses and materials) that help to develop skills for using big data sources in the production of official statistics.

Search the Catalog here »

Learning paths

Here you can identify resources that correspond to your personal work setting, current knowledge and planned goals.

Learn more »

Big Data Competency Framework

The Big Data Competency Framework provides the basis for linking training resources to exisitng and needed skills for the use of big data and identifying of skill gaps. It forms the basis for determining the personal learning paths.

Learn more »

Big Data Maturity Matrix

The Big Data Maturity Matrix is a self-assessment tool to help statistical offices understand the extent to which they have developed big data infrastructure and applications and to identify its strengths and weaknesses from which a development plan or road map may be produced.

Learn more »

Keeping the catalog updated

Big Data is a very dynamic field. New needs and opportunity for training constantly emerge. To help us keep the catalog up to date, you are encouraged to inform us about new courses or materials that you have encountered and validate existing information.

Learn more »

Course evaluations

You are encouraged to provide feedback on courses/materials listed in this catalog. Your feedback will help us to improve the selection of courses in the catalog and provide guidance to course developers.

Learn more »

Keyword search

Enter keywords to search for relevant courses/materials. Leave the field blank to show all courses/materials.

Search | Include all words | Advanced search options

Click here if you would like to add a course to this catalogue.

Records found: 296

ID	Title	Provider	Language	Details	Link
310	What is Scanner data?	UN Task Team on Scanner data	English	Details	Link
175	Python Data Products for Predictive Analytics	University of California, San Diego	English	Details	Link
184	Six Sigma Yellow Belt Specialization: Six Sigma Tools for Define and Measure	University of West Georgia	English	Details	Link
31	Blockchain	University at Buffalo, The State University of New York	English	Details	Link
304	Our Privacy Opportunity	OpenMined	English	Details	Link
155	Statistics and Data Science: Machine Learning with Python - from Linear Models to Deep Learning	Massachusetts Institute of Technology	English	Details	Link
45	Certified Data and Business Analytics Professional	Swiss School Of Business and Management	English	Details	Link
325	Mobile Phone Data - Awareness Course	UN Task Team on Mobile Phone Data	English	Details	Link
187	Sparse Representations in Signal and Image Processing - Fundamentals	Technion Israel Institute of Technology	English	Details	Link
12	Developing Applications with Google Cloud Specialization: App Deployment, Debugging, and Performance	Google Cloud	English	Details	Link
180	Research Methods and Skills	Maastricht School of Management	English	Details	Link
276	Analyse Data with Python	Code Academy	English	Details	Link
107	Data, Models and Decisions in Business Analytics	Columbia University	English	Details	Link
102	Data Visualization and Communication with Tableau	Duke University	English	Details	Link
106	Data Warehousing for Business Intelligence Specialization	University of Colorado	English	Details	Link
246	Data Visualisation with R	Data camp	English	Details	Link
24	Alibaba Cloud Computing Specialization: Big Data Analytical Platform on Alibaba Cloud	Alibaba Cloud	English	Details	Link
266	SQL for Data Science	IBM	English	Details	Link
217	Applications of GPM IMERG Reanalysis for Assessing Extreme Dry and Wet Periods	NASA	English	Details	Link
118	Digital Technology and Innovation	Indiana University	English	Details	Link

Advanced search

Enter keywords and/or criteria to search for relevant courses/materials.

Include all words

Note: Some courses do not have information for the fields below and may therefore not appear as results.

Language:	-All-
Provider:	-All-
Provider type:	-All-
Gives certificate:	-All-
Cost:	-All-
Type:	-All-
Synchronous/Asynchronous:	-All-
Length:	-All-
Available on:	-All-
Mode of delivery:	-All-

Search

Records found: 296

ID	Title	Provider	Language	Details	Link
78	Data Science - Probability	Harvard University	English	Details	Link
239	Data Visualization with Tableau specialization: Visual Analytics with Tableau	University of California, UC Davis	English	Details	Link
271	Statistics with R Specialization: Bayesian Statistics	Duke University	English	Details	Link
267	Statistics with R Specialization	Duke University	English	Details	Link
308	Principles of Data Visualization for Official Statistics and SDG Indicators	Statistical Institute for Asia and the Pacific	English	Details	Link
263	Managing Big Data in Clusters and Cloud Storage	Cloudera	English	Details	Link
123	Excel Skills for Business Specialization: Excel Skills for Business - Intermediate I	Macquarie University	English	Details	Link
15	Applied Data Science Program	Massachusetts Institute of Technology	English	Details	Link
146	Introduction to Data Science in Python	University of Michigan	English	Details	Link
186	Sparse Representations in Image Processing - From Theory to Practice	Technion Israel Institute of Technology	English	Details	Link
30	Big Data Fundamentals	University of Adelaide	English	Details	Link
138	Google Cloud Big Data and Machine Learning Fundamentals	Google Cloud	English	Details	Link
132	Fundamentals of Data Science (Non-Technical)	University of Southampton	English	Details	Link
216	Investigating Time Series of Satellite Imagery	NASA	English; Spanish	Details	Link
18	Artificial Intelligence (AI)	Columbia University	English	Details	Link

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Big Data Training Catalog | Catalog | Personal Learning Path | Add new courses | Course evaluations | About | Contact

Which of these options best suits your role?
-- Select your job profile --

Which topic are you interested in?
All

Which skill are you looking to improve?
-- Select a skill you want to improve --

How would you rate your current knowledge in this area?
None

What level of knowledge are you aiming for?
None

- None
- Foundation level (Beginner)
- Practicioner level (Intermediate)
- Expert level (Advanced)

Welcome | Course options | Personal profile

Welcome to the Personal Learning Path

1. To the left you will see some options. This is where we build your personal profile. Please follow the setps below.
2. First you select what kind of user you are (e.g. "Manager" or "Data Scientist").

3. Next you must identify which core skills you are looking to learn about.
4. Next you need to assess your level of knowledge in your selected core topics and select from the available options. If you are already at the "Advanced"level, no courses will be available to guide you further.
5. Next, using the same skill level scale, enter what level you would like to achieve by the end of this training.
6. Click Search

Once you have filled out this personal profile and clicked Search, your results will appear in the "Course options" tab. From here you will be able to select courses for your personal profile.

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Big Data Training Catalog | Catalog | Personal Learning Path | Add new courses | Course evaluations | About | Contact

Which of these options best suits your role?
Data Scientist

Which topic are you interested in?
Scanner Data

Which skill are you looking to improve?
Ethics and privacy

How would you rate your current knowledge in this area?
None

What level of knowledge are you aiming for?
Foundation level (Beginner)

Search

Welcome | **Course options** | Personal profile

The list below shows the courses that match your profile.
Check the box on the left for the courses you want to include in your Learning plan and click "Save selection" below.

Records found: 11

	Title	Provider	Details
☐	Cyber Security	Warnborough College	Details
☐	Data Privacy Fundamentals	Northeastern University	Details
☐	Data Privacy Management	RMIT University	Details
☐	Data Science Ethics	University of Michigan	Details
☐	Privacy and Standardisation Specialization	EIT Digital Professional School	Details
☐	Systems Analysis	UCLA Extension	Details
☐	Understanding the GDPR	University of Groningen	Details
☐	Big Data and Statistics	International Telecommunication Union	Details
☐	UN Handbook on Privacy-Preserving Computation Techniques	UN Task Team on Privacy Preservation Techniques	Details
☐	Data acquisition with respect to privately held data based on partnerships	Eurostat; ICON-INSTITUT Public Sector GmbH	Details
☐	Our Privacy Opportunity	OpenMined	Details

Save selection

Detailed information about "UN Handbook on Privacy-Preserving Computation Techniques"

Key info	
Offered by	UN Task Team on Privacy Preservation Techniques
Description	In this UN handbook, we define specific goals for privacy-preserving computation for public good in two salient use cases: giving NSOs access to new sources of (sensitive) Big Data; and enabling Big Data Collaborations Across Multiple NSOs. We describe the limits of current practice in analyzing data while preserving privacy; explain emerging privacy-preserving computation techniques; and outline key challenges to bringing these technologies into mainstream use. For each technology addressed, we provide: • a technical overview; examples of applied uses; • an explanation of modeling adversaries and security arguments that typically apply; • an overview of the costs of using the technology; • an explanation of availability of the technology; • and a Wardley map that illustrates the technology readiness and suggested development focus for the technology. Handbook Purpose and Target Audience This document describes motivations for privacy-preserving approaches for the statistical analysis of sensitive data; presents examples of use cases where such methods may apply; and describes relevant technical capabilities to assure privacy preservation while still allowing analysis of sensitive data. Our focus is on methods that enable protecting privacy of data while it is being processed rather than while it is at rest on a system or in transit between systems. This document is intended for use by statisticians and data scientists, data curators and architects, IT specialists, and security and information assurance specialists, so we explicitly avoid cryptographic technical details of the technologies we describe.
Accredited by	UNCEBD
URL	https://unstats.un.org/bigdata/task-teams/privacy/UN%20Handbook%20for%20Privacy-Preserving%20Techniques.pdf

Additional info	
Provider type	international/national organization
Type	handbook
Synchronous / asynchronous	
Type of delivery	online handbook

Spot any errors or omissions?

Please leave some feedback here.

How do we keep this up to date?

- New courses relevant to big data constantly appear
  - Targeted courses for specific data sources or specific applications
  - General courses addressing pre-requisites
- Many course providers exist

- Our Task Team works on identifying new courses
- Users can recommend new courses to be included
- Users can evaluate courses

How do we keep this up to date?

- Use of this application will also show us where demand exists and where more training resources are needed
- We count on your cooperation!
- https://unstats.un.org/bigdata/task-teams/training/catalog/

UN Big Data E-learning Hub

Ralf Becker (beckerr@un.org) Chief, Statistical Capacity Management Section, UN Statistics Division

UN Big Data E-Learning Hub

- Includes e-learning courses developed by:
  - UNCEBD Task Teams
  - UNSD (on statistical topics)
  - Other partners
- All courses are free of charge
- Most courses are self-paced, can be taken at any time
  - For some courses we have also offered guided sessions (limited participation)

UN Big Data E-Learning Hub

- Big Data courses exist on:
  - General Big Data concepts
  - Automatic Identification System (AIS – shipping data)
  - Scanner Data
  - Mobile Phone Data
  - Privacy Preserving Techniques
- International Data Masterclass
- More courses are under development

UNBigDataLearning UNGP LMS English (en)

- Home
- Dashboard
- Calendar
- Private files
- Content bank
- My courses
- Energy statistics
- Compiling Metadata for SDGs (English)
- MOOC Format
- Site administration

UN Global Platform - Learning Management System

News: 21 August 2023: Two new courses, covering Basic and Advanced topics of the *Population and Housing Census* have been released.

Hidden from students

Search courses Go

Course categories

- Big Data
  - What is Big Data? (1)
  - Automatic Identification System (AIS) (2)
  - Scanner data (1)
  - Mobile phone data (1)
  - Privacy preserving techniques (3)

Home
Dashboard
Calendar
Private files
My courses
Introduction to Big Data
What is AIS Data
Acquiring AIS data via the UNGP
Scanner data (intro)
MPD
Energy statistics
Курс электронного обучения по статистике энергетики
SEEA for Policy Makers (English)
SEEA for Policy Makers (Portuguese)
SEEA - Central Framework (English)

Automatic Identification System (AIS)

Home / Courses / Big Data / Automatic Identification System (AIS)

Course categories: Big Data / Automatic Identification System (AIS)

The automatic identification system (AIS) is a tracking system for ships, originally developed for collision avoidance. I n the recent years, it is also used for analyses from various fields. The data is automatically transmitted every few seconds over very high frequency (VHF) radios from approximately 100,000 vessels worldwide.

If you have any questions regarding the AIS courses, please do not hesitate to contact us at support@officialstatistics.org.

Search courses Go

What is AIS Data?

This introductory course aims to raise awareness of what AIS data is and shows how it can be applied at a National Statistical Organisation (NSO). Information will be shared on how to obtain AIS data, plus the opportunities and challenges it presents for incorporating its use at the NSO.

Acquiring AIS data via the UNGP

This course aims to build the skills for acquiring and performing simple analysis of AIS data via the UN Global Platform. It includes an introduction to the UN Global Platform AIS data, procedures to request access to the platform, methods of acquiring both AIS and Ships Register data, an introduction to their data structures, and samples of reading and filtering AIS data using PySpark.

Note: Access to this course is restricted. If you are interested, send a request to support@officialstatistics.org.

International Data Masterclass
Competencies
Grades
Welcome
Module 1 - Data driven decision making & policy making
Module 2 - Communicating compelling narratives through data
Module 3 - Data science and new frontiers
Closing of the course
Certificate
Home
Dashboard

International Data Masterclass

Home / My courses / International Data Masterclass

Your progress

What is the International Data Masterclass?

The International Data Masterclass has been designed to help non-analytical senior leaders across world-wide governments to:

- put data and evidence at the heart of their decision-making,
- gain the skills to create and support a data culture in their organization, and
- understand how they can use data to improve the way they:
  - make decisions,
  - craft policy,
  - communicate compelling narratives, and
  - apply cutting edge data science techniques.

User information

Please provide us with some information about you, which will help us to provide customized support.

Where to find us and our tools

- Task Team website:
  - https://unstats.un.org/bigdata/task-teams/training/index.cshtml
- UN Big Data Training Catalogue:
  - https://unstats.un.org/bigdata/task-teams/training/catalog/
- UN Big Data Competency Framework:
  - https://unstats.un.org/bigdata/task-teams/training/UNGWG_Competency_Framework.pdf
- UN Learning Hub
  - https://learning.officialstatistics.org/
- Contact us: bigdata@un.org

UN Task Team on Training, Competencies and Capacity Development

Thank you for listening

Any questions?