Arab Thematic Conference on

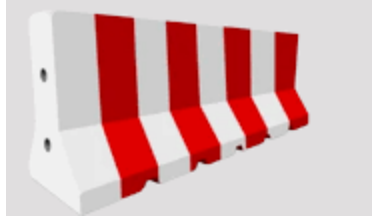
Agile and Resilient National Statistical Systems

Amman, Jordan, 13-15 June 2023

Session 1(b): User engagement and partnership with the data community

Strengthening data culture through partnerships - Palestine Data Science Initiative

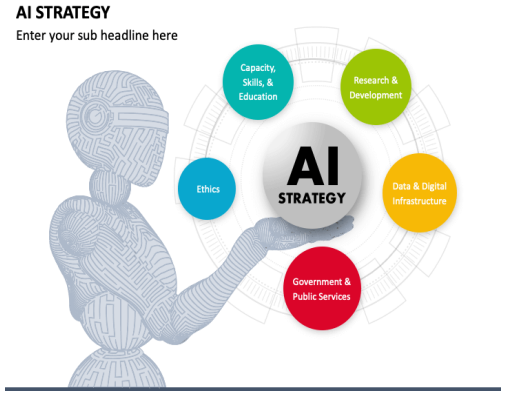
Sufian Abu Harb, Palestinian Central Bureau of Statistics



BE ANTIBIOTICS AWARE

SMART USE, BEST CARE

Sustainable Fisheries Partnership



plus

rolling!

Data science
Search term

+ Compare

Palestine | 28/04/2014 - 28/05/2018 | All categories | Web Search

Interest over time

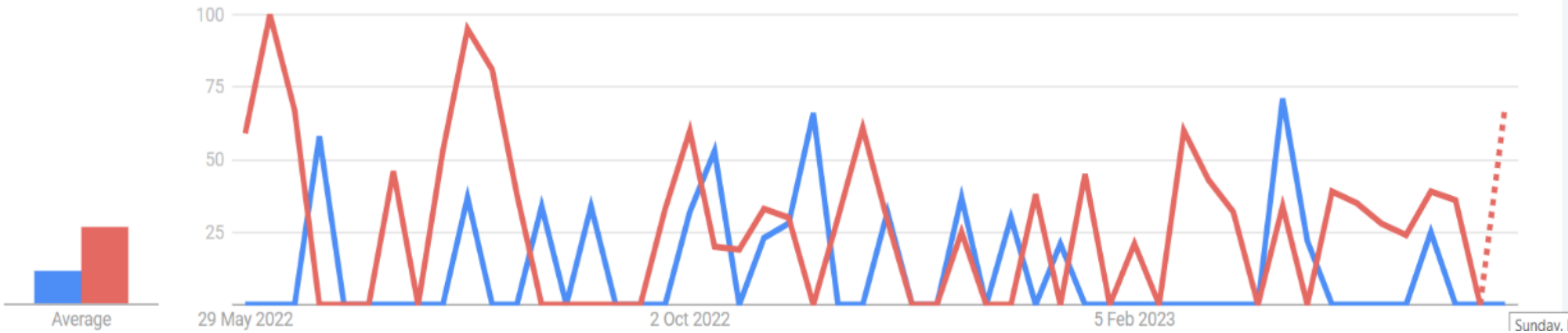
Data science
Search term

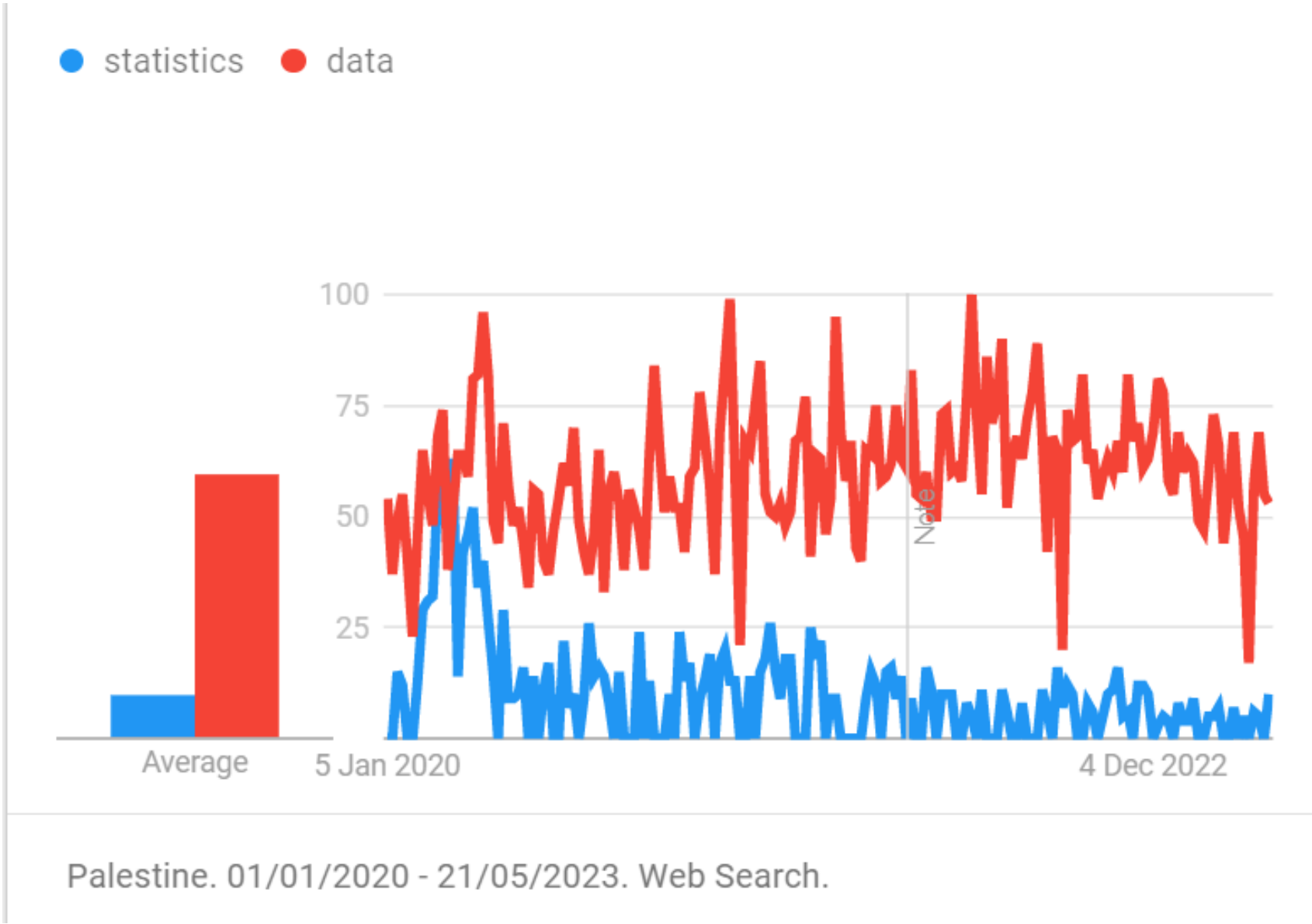
Statistics
Search term

+ Add comparison

Palestine | Past 12 months | All categories | Web Search

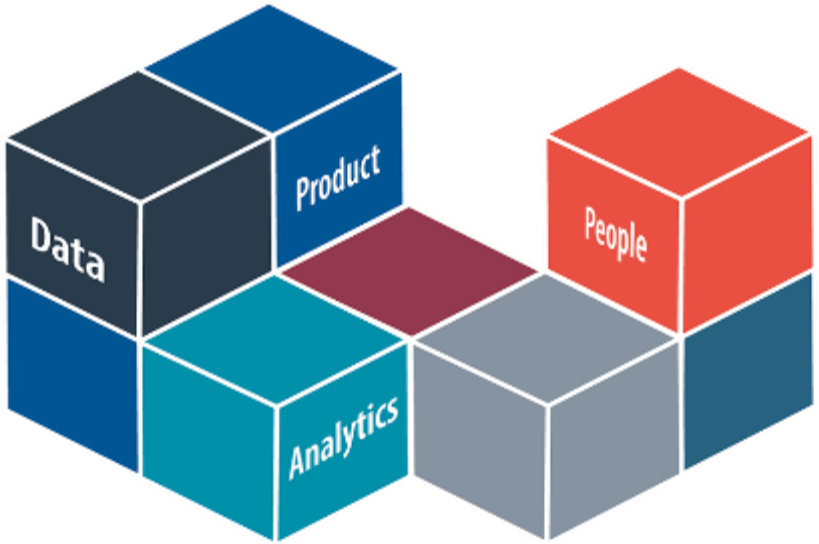
Interest over time





Palestine. 01/01/2020 - 21/05/2023. Web Search.

SCENE ONE



SURVEYS VS CENSUSES

data is power - بحث Google

data science - Explore - Google Trends

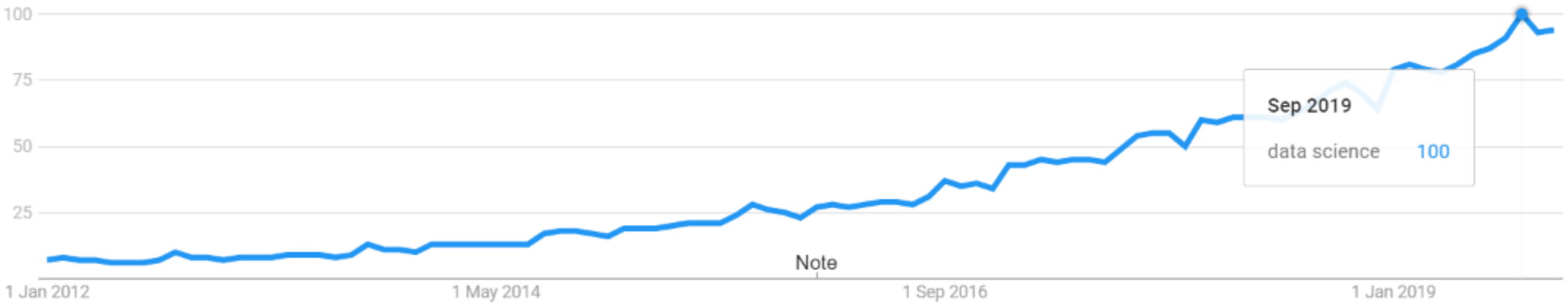
trends.google.com/trends/explore?date=2012-01-01%202019-11-26&q=data%20sci

Google Trends | Explore

data science
Search term

Worldwide | 01/01/2012 - 26/11/2019 | All categories

Interest over time



data is power - بحث Google

statistician, data scientist - Explore - Go

trends.google.com/trends/explore?date=2012-01-01%202019-11-26&q=statistician,data%20scientist

www.PR3Systems.com
OPTIMIZED DATA **INSIGHT**

DATA

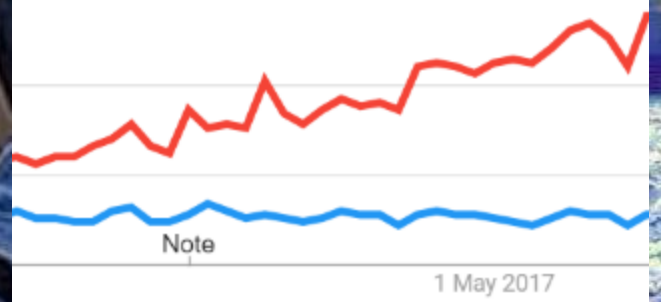
Data Scientist: The Sexie of the 21st Century

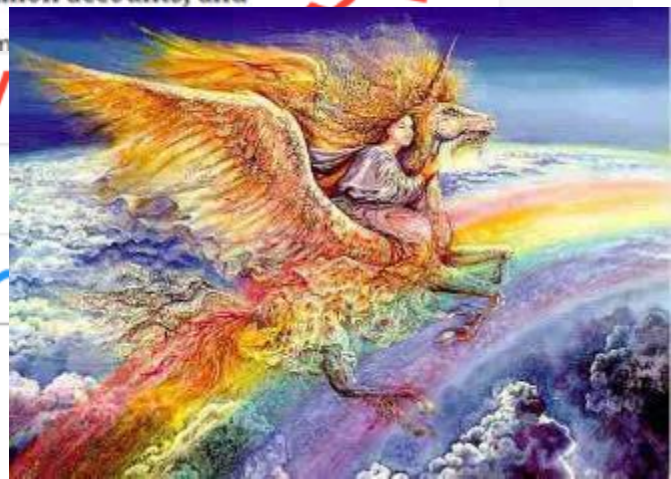
by Thomas H. Davenport and D.J. Patil

FROM THE OCTOBER 2012 ISSUE

When Jonathan Goldman arrived for work in June 2006 at LinkedIn, the business networking site, the place still felt like a start-up. The company had just under 8 million accounts, and the number was growing quickly as existing members invited their frien

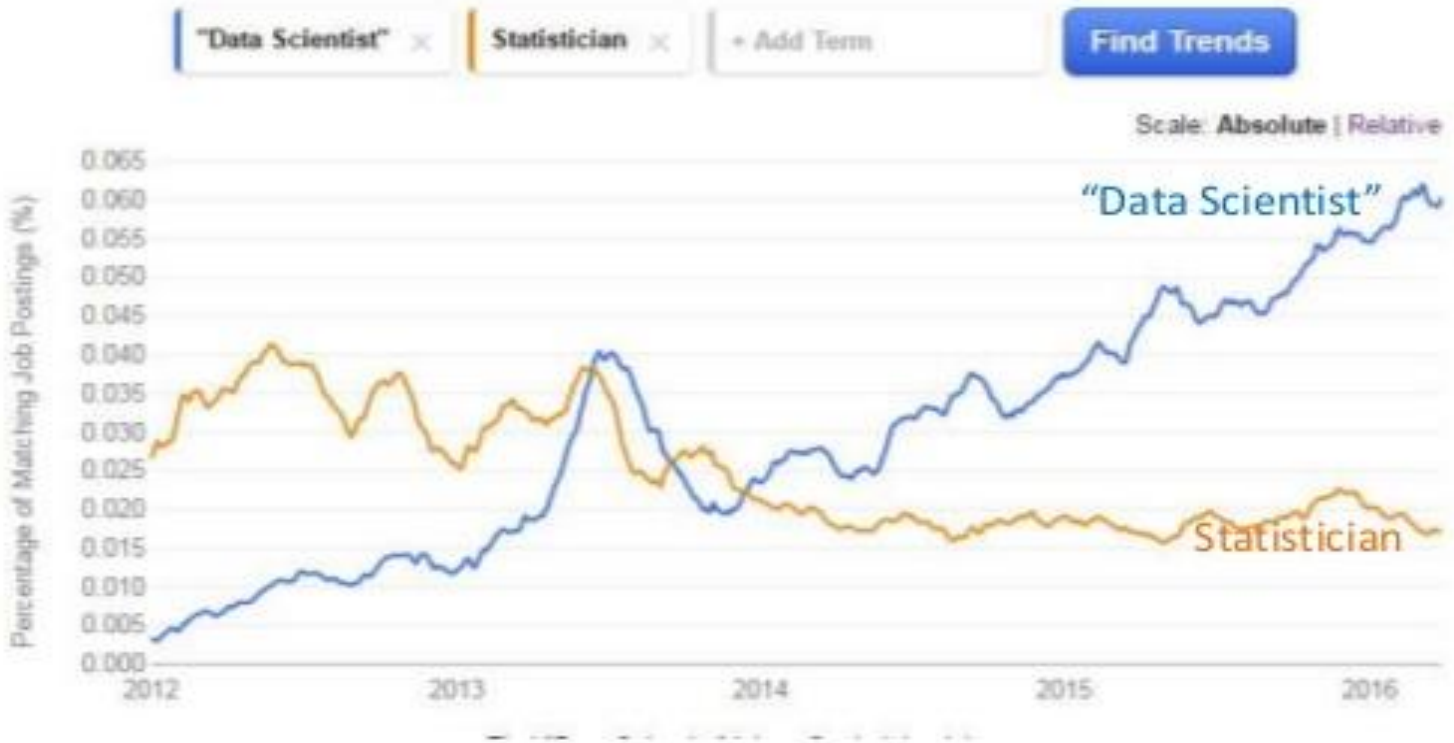
"I KEEP SAYING THAT THE **SEXY JOB**
IN THE NEXT 10 YEARS
WILL BE STATISTICIANS,
AND I'M NOT KIDDING."
– HAL VARIAN, CHIEF ECONOMIST AT GOOGLE





"Data Scientist" vs Statistician

Indeed.com job trends



نتائج البحث

أدخل بريدك الالكتروني
إشترك الآن

المسمى الوظيفي	المكان	تاريخ النشر
Data Scientist Alpha International	رام الله والبيرة	Jul ,15
Data Scientist SocialDice - سوشال دايس	رام الله والبيرة	Nov, 2017 ,21
Data Scientist Harri, The Workforce OS for Hospitality	رام الله والبيرة	Oct, 2017 ,17
Data Scientist Imagry	رام الله والبيرة	Jan, 2017 ,16

Data Scientist

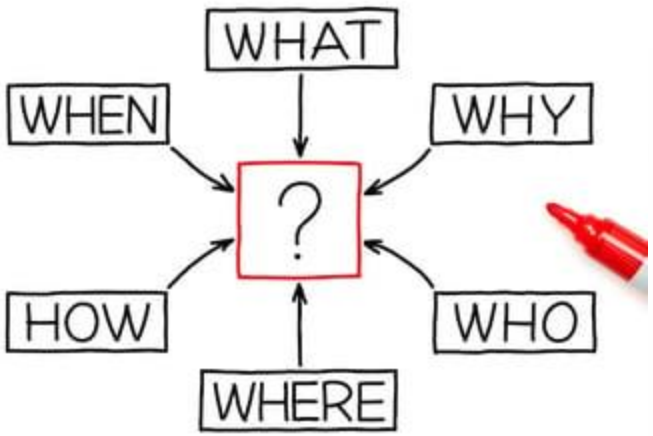
نصيحة: لم تجد الوظيفة المناسبة؟ لا تقلق. المئات من المؤسسات والشركات تستخدم قاعدة بيانات جوبس للبحث عن مرشحين بدل الإعلان عن وظيفة. حمّل سيرتك الذاتية لتبدأ بالتقدم الى الوظائف بسهولة.

إستقبل الوظائف على بريدك الألكتروني مباشرة

إبحث عن وظيفة

data scientist
المدن
المستوى المهني
نوع الوظيفة
التصنيف
إبحث الآن

منهاج كم
تعلّم مع المنصة التعليمية الإلكترونية Iteacher من جوال مجاناً
جوال


WHAT
WHEN
WHY
?
HOW
WHO
WHERE

90%
75%
50%
25%
YEAR 1
YEAR 2
YEAR 3
YEAR 4
YEAR 5
YEAR 6
+5% growth
75%
35%
50%
70%
100%

SCENE TWO

POPULAR
data
SPECIAL ISSUE
DATA IS
POWER
HOW INFORMAT
IS DRIVING
THE FUTURE
A Gallery of
Extraordinary
Infographics

OPINIONS
ONLY EXIST
BECAUSE OF A
LACK OF DATA

INFLATION

Data Science Skills

Data Scientist

Statistician

Quantitative
Primary Research
Qualitative
Market Research
Secondary Research
Surveys
Interviews
Field Trials
Focus Groups
Observational Research
Experiments
A/B Testing

VOTE

VS
COMPUTER SCIENCE
SOFTWARE ENGINEERING

BYJ

BI

livemint

Byju Raveendran wants to do for Indian education what the Mouse House did for entertainment (Photo: Bloomberg)

Byju Raveendran, a former school teacher, joins Indian billionaires' club

4 min read . Updated: 29 Jul 2019, 11:59 PM IST

Saritha Rai , Bloomberg

- Raveendran's entry into the billionaires' club comes after Think and Learn scored $150 million in funding in July
- Byju's valuation hit $5.7 billion after latest funding round; his learning

6,000,000,000

PUBLIC
SECTOR
?
?
PRIVATE
SECTOR

standard

TWO BIRDS, ONE STONE

Take the Initiative

DATA SCIENCE INITIATIVE

Without Walls

Schools

DATA SCIENCE SOCIETY

FOR EXECUTIVE DATA SCIENCE

5

Projects

Think Data Science

DATA MATTERS Festival @ PS

DATA SCIENCE INITIATIVE

DATA MATTERS Festival @ PS

One-day journey of data-related core skills harvesting

DATA MATTERS Festival @ PS

1. One-day
2. National/International event
3. Completely free
4. Data Talks
5. Connect with Data Science communities in Palestine
6. Academia, research, industries, and government

dataproducer

in BRIEF

DATA MATTERS Festival @ PS

Exhibition

Data Matters Festival

Concluding Statement

Ramallah – October 20th, 2019

Realizing that the organization of the Data Science Festival comes in celebration of the World Statistics Day on October 20th of this year, and given the role of the government and all sectors in promoting and providing the required support for creative initiatives, including the Data Science Initiative, to improve decision-making at all levels, and

Realizing the importance of partnerships and exchange of experiences in the use of data science and the extent of its contribution to serve humanity and the measurement of Sustainable Development Goals, and

In alignment with the *National Policy Agenda* and *directions* of the Palestinian Government, that dedicates great priority to youth and entrepreneurship,

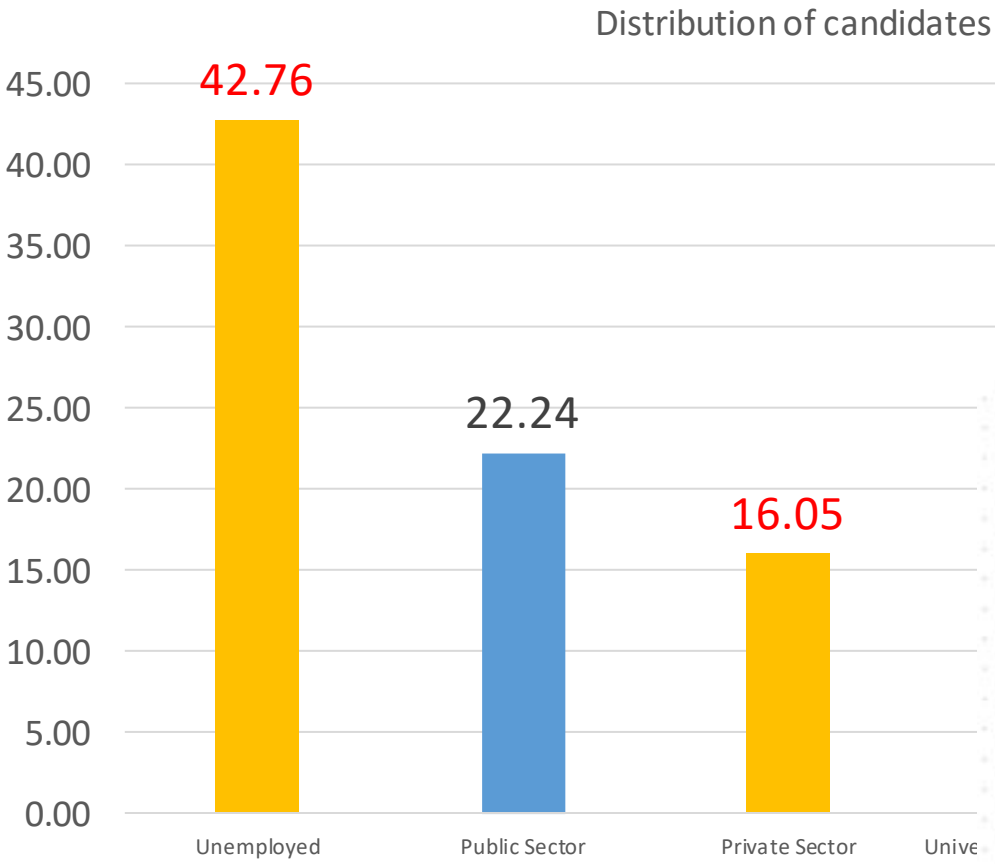
We, the participants of the first Data Science Festival in Palestine representing Ministries, Academic Institutions, and Research Centers, representatives of Civil Society Organizations, the Private Sector, and all attendees interested in the field of data science welcome this initiative and this global event, and

We emphasize the importance of data in human life, including the provision of data on all aspects of life, and the need to make data available for public use while ensuring data confidentiality and privacy of individuals, and

We emphasize the role of the Data Science Initiative including all of its projects in contributing to the enhancement of the status of Palestine in employing the information revolution and big data to overcome all challenges and achieve sustainable social development in several aspects to serve public good, and

We call for a full partnership between all national institutions from the private and c sectors in addition to the components of the National Statistical System to provid

1. *Considering* data science as a broad world covering all business domains and encourage everyone from all specializations to acquire its knowledge;
2. *Encouraging* the government and the actors in the private and civil sectors to adopt the Data Science Initiative in Palestine as a basic lifeline and a pioneering step to serve the society; especially, the Palestinian youth;
3. *Strengthening* the partnership opportunities and invite all relevant institutions from different sectors to join the Data Science Initiative to promote different data sources, including administrative records;
4. *Establishing* of the Palestinian Society for Data Science as the incubator for corresponding standards, best practices and professional ethics and encouraging Palestinian competencies in the homeland and the Diaspora to join this society;
5. *Promoting* a culture of evidence based decision-making by building on what data science can offer in terms of knowledge and insights and overcome business constraints using best methodologies;
6. *Embedding* data science skills in the curricula of schools and universities in order to equip students with data intuition and motivation to engage in data science;
7. *Adopting* capacity development programs in the skills of data science for employees and executives by different institutions in all sectors according to their business domains and needs;
8. *Linking* this initiative at various national levels to international efforts on the basis of accumulating, updating and building on global knowledge;
9. *Strengthening* networking with Palestinian experts in data science field in all their locations to furnish Palestinian youth in all sectors of society with international expertise in this field;
10. *Supporting* the Data Science Initiative by all sectors of society to implement its various core projects, including the following:
    - Data Matters Festival.
    - Think Data Science Program.
    - Data Science for Executives & Leaders.
    - Data Science for Schools: "Schools without Walls".
    - Data Science Society of Palestine.


Distribution of candidates by sector
45.00
40.00
35.00
30.00
25.00
20.00
15.00
10.00
5.00
0.00
42.76
22.24
16.05
Unemployed
Public Sector
Private Sector
Unive

DS
4A

Program

think

DATA SCIENCE

CUSTOMIZED

Program

think

DATA SCIENCE

CUSTOMIZED

2019/2020

TRAINEE

WORLD STATISTICS DAY 20/10

CURRICULUM REDESIGN

20 Modules

DATA SCIENCE INITIATIVE

Think Data Science Program

Microsoft Data Science Program

Harvard Data Science Program

CRASH COURSE+

DATA MATTERS @ PS

Data science: R basics

Build a foundation in R
visualize data.

Data science: Data visualiz

Learn basic data visuali
them.

Data science: Probability

Learn probability theo
using a case study on th

Data science: Inference an

Learn inference and mo
statistical tools in data a

Data science: Productivity

Use Unix/Linux to mana
control, manage a repo

Data science: Wrangling

Learn to process and convert raw data into formats needed for analysis.

Component One. Basics of data science

Module 1. Data, information, knowledge, indicators, Metadata, official statistics, statistical terminologies, classifications, statistical ethics

Module 2. Statistical methodologies, sampling techniques,

Module 3. Quality of data, sampling errors, non-sampling errors

Component Two: Data science programming languages

Module 1: Introduction to R

Module 2: Introduction to Python

Component Three: Data Science and visualization

Module 1. Data storytelling

Module 2. Data presentation

Module 3. Data visualization

Component Four: Catalogue of data

Module 1. Data available at PCBS

Module 2. Other data sources

Harvard Data Science Program +

on

plement linear regression, one of
ical modeling approaches

ing

g, How to perform cross-
ar machine learning algorithms

d from the Professional Certificate

Online application system for data Scientists prospects

2000 applicants

Online Assessment

Wave I

Wave II

Wave III

AAUP

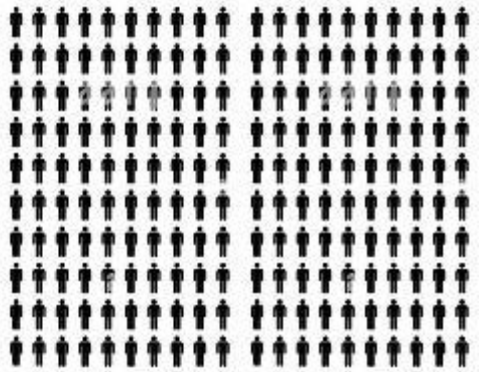
PCBS

AAUP/PCBS

Efficiency

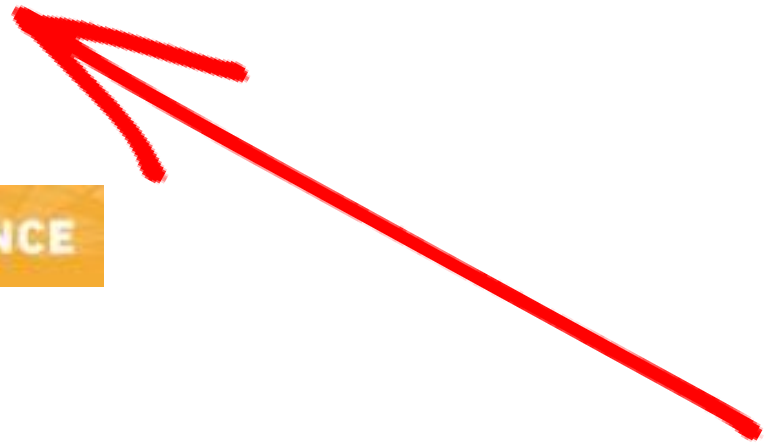
Quality

Cost



DATA SCIENCE INITIATIVE

FOR EXECUTIVE DATA SCIENCE



FOR EXECUTIVE DATA SCIENCE

learning journey into the world of applied data science and analytics

DECISION MAKERS

1. Executive program for professional development in Data Science
2. Real-world applications of data science
3. Statistical Thinking for Data Science and Analytics
4. Foundations of data science
5. Understanding the principles of Data Science from a business perspective
6. Gain insight into the latest data science tools and their application in finance, health care, product development, sales and more.
7. Demonstrate how data science can improve corporate decision-making and performance
8. Tangible illustrations of how data science and analytics are used in decision making across multiple sectors today
9. Best Practices for Assembling/Leading Data Science Teams
10. Build a Data-Driven Culture and Data-Driven Policy
11. Translate business problems into data problems

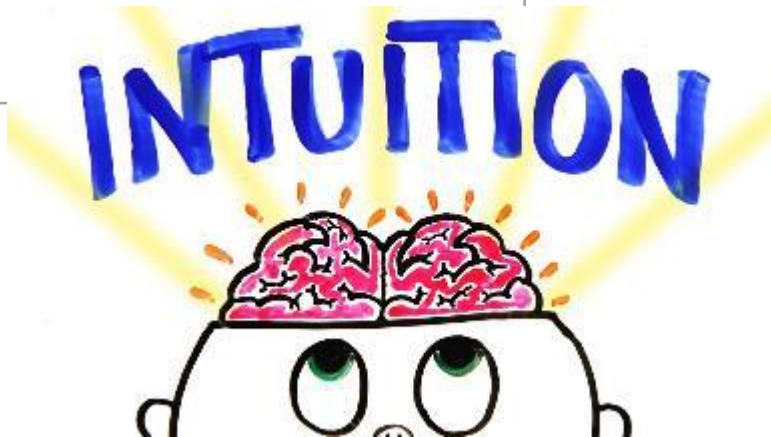
DATA SCIENCE INITIATIVE

Wit

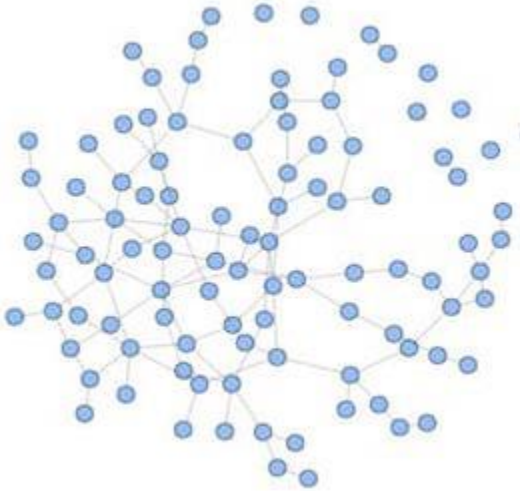
Schoo

1. To bridge the gap between percepti
2. To encourage students for better us
3. Enrich education through the applic
4. To foster collaboration in advancir address the urgent problems facing society;
5. To advance the essential analytical skills for students;

~~STATISTICS~~ Competition



DATA SCIENCE INITIATIVE



DATA SCIENCE SOCIETY

- No statistics association in Palestine
- Data science society shall Include all interested in data
- The drivers: private & academic sectors
- Achievements: Concept note; draft law & internal regulations

The
Last
Scene

DATA
SCIENCE
CONTAGIOUS

III. Organizational and institutional structure	
(a) Does your organization have internal technical capabilities, human resources related to digital transformation?	(1) There are data managers as needed to handle the available data. (2) Data scientists are recruited and trained to undertake holistic tasks using available data. (3) A multidisciplinary data science team is available with statisticians and technologists, with initiatives in learning and applications across the enterprise.
(b) In your organization, what are the current administrative systems and organizational structures that handle data?	(1) Forming ad hoc committees to deal with the data challenges presented. (2) Seeking assistance from other similar teams as needed. (3) There is a unit dedicated to data science management in the institution.
(c) In your organization, where exactly is big data used?	(1) Raising awareness of facts related to institutional work. (2) Services and products for marketing the organization. (3) Throughout the business cycle: Using big data in planning, and operations.
IV. Literacy and training	
(a) Does your institution have awareness-raising programmes and activities on the benefits of big data?	(1) Educating employees in the field of information technology. (2) Awareness for all with training of IT personnel. (3) Awareness of leaders and administrators and providing employees with appropriate training according to their backgrounds.
(b) If your institution is in the field of education, are there academic programs	(1) Big Data course is optional for specific majors. (2) Big Data course is mandatory for all university departments.

ats.un.org/unsd/stat

nents/un_bigdata_
html

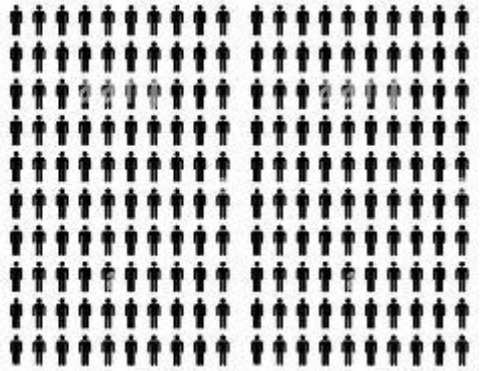
Use of sa

need for guidance for your NSO?

2

My Data Science Master's

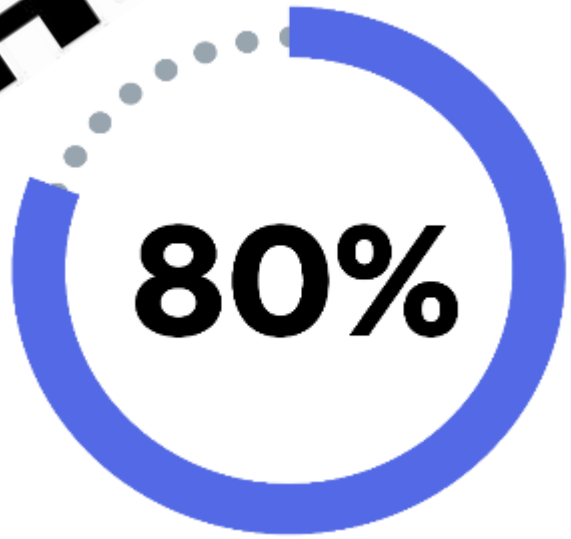
SCHOLARSHIP
OPPORTUNITY



9
University
Credit
Hours

40% OFF

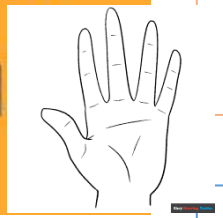
200


80%

Skill Set

700

You Can't Clap With One Hand



SPONSOR

it MATTE

THE POWER of the human interest story

THINK BIG

START SMALL

IT'S TIME TO FACE YO... ...ES

BIG START

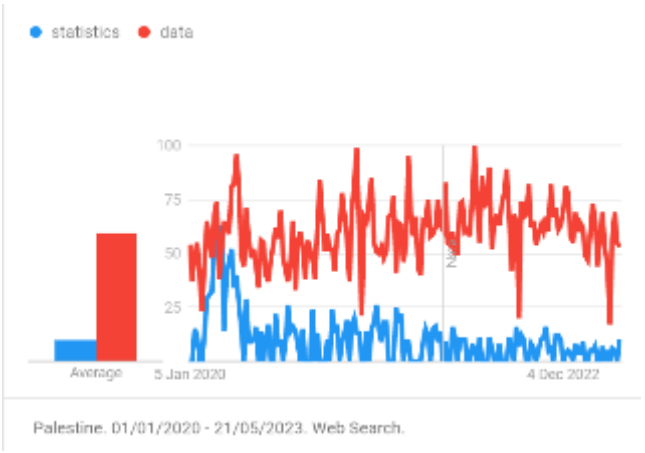
LOOK INSIDE!

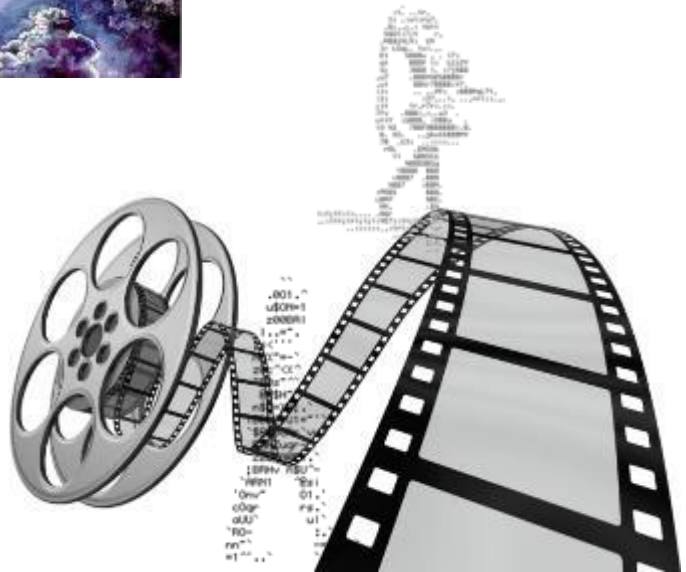
Lobbying

Thank
You

I'M A
DATA
SCIENTIST

موضة!


statistics
data
100
75
50
25
Average
5 Jan 2020
4 Dec 2022
Palestine. 01/01/2020 - 21/05/2023. Web Search.

DATA PRODUCTS

SCENE
ONE