Big Data Training in a Post-Covid Environment

6th International Conference on Big Data for Official Statistics
2nd September 2020

David Johnson, Deputy Director
ONS Data Science Campus
@new_to_dave
The Data Science Campus

“It's a fundamental belief that **data science** is just what many of us have called **statistics** for a very long time. It requires rigour, it requires really clear thinking, it requires absolute accuracy and it requires an understanding of error.”

- Professor Sir Ian Diamond
  National Statistician

**Data Science**
Applying the tools, methods and practices of the digital and data age to create new understanding and improve decision-making

**Purpose**
The Campus applies data science, and builds skills, for public good across the UK and internationally

**Mission**
The Campus works at the frontier of data science and AI – building skills and applying tools, methods and practices – to create new understanding which improves decision-making for public good
Research Partnerships

- The Data Science Campus works with 7 university Centres for Doctoral Training in AI, Data Science, Statistics and Physics, with collaborative research, PhD mentoring and three-month industry placements at the Campus for both PhD and MSc students.

- A collaborative partnership with The Alan Turing Institute, focused primarily on economic data science, and a Data Science for Public Good joint PhD programme.

- Direct partnerships with Cardiff University, Lancaster University, University of Manchester and University of Warwick that facilitate collaborative research, PhD co-funding, MSc and PhD placements and academic staff secondments.

Academic Partnerships

- Degree Level Apprenticeship in Data Science: National Framework development in England and Wales led by the Campus, The first three-year programme launched in 2019 building on 2 successful Campus cohorts of 2-year Apprenticeships in Data Analytics.

- MSc in Data Analytics for Government: 2 year part-time MSc in Data Science and Statistics for government analysts, delivered by five universities across the UK.
Training and Mentoring Programmes

**Data Science Faculty**

- In-house training unit delivering operational courses focused on up-skilling government analysts in data science skills, from fundamentals of computer science and programming (R, Python) to data science (Machine Learning, NLP etc) and data engineering.

- 5 Data Science Lecturers develop and deliver a core AI and data science curriculum for use across government.

**Mentoring Programmes**


- Graduate Data Scientist Programme: 2-year programme for PhD and MSc graduates, with 2nd cohort starting in October 2020.

**International Programmes**

- Faculty-delivered workshops, training and mentoring programmes for National Statistics Institutions, and a dedicated research and training team co-located with the Foreign, Commonwealth and Development Office in Glasgow.
Developing the next generation of government Data Scientists

**Campus courses:**
- 290 people trained
- 240 hours of courses delivered
- Programmes delivered for ONS and 9 UK government departments, and the UN Economic Commission for Africa

**MSc in Data Analytics for Government:**
- 4 x week-long modules delivered on site at ONS locations
- 58 people trained from ONS and 9 UK government departments

**Mentoring:**
- Data Science Accelerator: 42 participants and mentors across 7 UK hubs

**Live Events**
- Workshops at 6 Civil Service conferences
- Data Science Community meet-up in London
- Over 250 attendees in all

Apr – Jul 2019
Ways to say no when someone tells you to do something outside your COVID risk comfort zone:

TOO INDIRECT

You have to come inside.

OK, but... I've been trying to follow the science, and they're really emphasizing the transmission risk in enclosed spaces. I know you're wearing a mask, and I feel so awkward making a scene over a tiny risk. But I'm trying to keep my overall risk acceptably low, which means having simple rules so I don't overthink every minor decision. See, if you look at this spreadsheet—

DIRECT

I'm so sorry, but I'm avoiding shared indoor spaces unless it's an emergency.

TOO DIRECT

I'm not setting foot in your haunted plague box.

https://xkcd.com/2346

In-person training was no longer an option....
Challenge 1: Convert course content for online delivery

Challenge 2: Identify suitable technology platforms for delivery

Challenge 3: Convert live mentoring programme

Challenge 4: Get university partners to deliver online courses

Challenge 5: Stressed Civil Servants working from home!

...combined with urgent demand in government for real-time analysis of novel data sources!
Campus courses:
• 170 people trained, 120 hours of courses
• Programmes delivered for 4 UK government departments, Kenyan National Bureau of Statistics, National Institute of Statistics Rwanda and the government of Paraguay

MSc in Data Analytics for Government:
• Online week-long modules and short courses developed and delivered by 2 universities
• 30 people trained from 7 UK departments

Mentoring:
• UK Accelerator: 40 participants and mentors

Live Events
• 2 Data Science Community virtual meet-ups
• Over 300 attendees in all
The Future: User-centred Learning

Bite sized learning about digital technology and government

The Digital Academy at The Canadian School of Public Service
Big Data training resources

data science campus

data science campus faculty

www.gla.ac.uk/schools/mathematics-statistics/postgraduate/mdatagov/

marketplace.officialstatistics.org/

busrides-trajetsenbus.ca/

Twitter: @new_to_dave