

Professional standards to be set for data science

Industry-wide professional standards are to be established for data science to ensure an ethical and well-governed approach so the public can have confidence in how their data is being used.

The Royal Statistical Society (RSS) will be leading on the work along with the BCS, The Chartered Institute for IT (BCS), the Operational Research Society (ORS), the Royal Academy of Engineering (RAEng), the National Physical Laboratory (NPL), the Royal Society and the Institute of Mathematics and its Applications (IMA), to collaboratively shape and develop the data science profession.

While the skills of data scientists are increasingly in demand, there is currently no professional framework for the field. The organisations involved aim to fill that gap by developing the necessary industry-wide standards. Starting with existing academic qualifications, the work will progress on to current professional standards. The group will work with universities to ensure that educational programmes deliver the right skills and knowledge for those looking to enter the profession.

Never has data and the role of data science been more critical; while many may be aware of how it affects some areas of our lives, such as credit scoring, the current Covid-19 pandemic has demonstrated the role it plays in the world's health and wellbeing. It is therefore now more important than ever that those in the field of data science maintain the highest ethical and professional standards so the public can have confidence that their data is being used ethically, stored safely and analysed robustly.

This follows recommendations in the Royal Society's 2019 report on 'Dynamics of data science skills', that data science should be developed as a profession and that 'in the longer term, professional bodies such as the BCS, the Chartered Institute for IT (BCS) and the Royal Statistical Society (RSS), should work together with employers and universities to identify the skills needed for data scientists and develop accreditation to ensure students and professionals can be confident in the quality of new courses.'

Stian Westlake, Chief Executive of the Royal Statistical Society, said:

"You wouldn't let a doctor perform heart surgery or an architect design your house without being confident they were working to the highest standards. We believe that people who deal with our data should follow equally high standards - and gain recognition for doing so.

"Today's move is an important step to professionalising the field, and helping us harness data for the public good."

Rebecca George OBE, President BCS, the Chartered Institute for IT, said:

"People are increasingly aware of data and how it is being used. As BCS President, I'm very encouraged by this collaboration to develop Data Science as a profession. Data is a key part of our daily lives and we must ensure those using it are working ethically and to the highest standards."

Gavin Blakett, Executive Director of the OR Society, said:

"The OR Society is delighted to be involved in this initiative. Operational Research and many elements of data science are closely aligned. Data, where it's come from, what it tells us and

how it's used in modelling, has always been a core part of 'the OR process', and we feel we have a lot to both contribute and learn as part of this important work to move data science professionalism forward to meet the needs of today's world."

Notes to editors

- The Royal Society's report on the 'Dynamics of data science skills' report, published in June 2019 can be found here:
 - <https://royalsociety.org/topics-policy/projects/dynamics-of-data-science/>
 - <https://royalsociety.org/-/media/policy/projects/dynamics-of-data-science/dynamics-of-data-science-skills-report.pdf>
- The Royal Statistical Society (RSS), founded in 1834, is one of the world's most distinguished and renowned statistical societies. It is a learned society for statistics, a professional body for statisticians and a charity which promotes statistics, data and evidence for the public good. Today the RSS has around 10,000 members around the world. www.rss.org.uk
- BCS, The Chartered Institute for IT is here to make IT good for society. We promote wider social and economic progress through the advancement of information technology science and practice. We bring together industry, academics, practitioners and government to share knowledge, promote new thinking, inform the design of new curricula, shape public policy and inform the public. Our vision is to be a world-class organisation for IT. Our 65,000 strong membership includes practitioners, businesses, academics and students in the UK and internationally. We deliver a range of professional development tools for practitioners and employees. A leading IT qualification body, we offer a range of widely recognised qualifications.
- The Operational Research Society (ORS) is the home of the operational research and analytics community in the UK. It is a member-led organisation supporting professional operational researchers across industries and academia. We promote the understanding and use of operational research in all areas of life, including industry, business, government, health and education. The society is a registered charity which does everything from helping OR specialists push the boundaries of the discipline through publications and events to undertaking outreach work aimed at helping everyone from business leaders to schoolchildren find out about the benefits of OR. With over 3,000 members from over 60 countries around the world, the OR Society is home to the science + art of problem solving. www.theorsociety.com
- The Royal Academy of Engineering is harnessing the power of engineering to build a sustainable society and an inclusive economy that works for everyone. In collaboration with our Fellows and partners, we're growing talent and developing skills for the future, driving innovation and building global partnerships, and influencing policy and engaging the public. Together we're working to tackle the greatest challenges of our age. www.raeng.org.uk
- NPL is the UK's National Metrology Institute, providing the measurement capability that underpins the UK's prosperity and quality of life. From new antibiotics to tackle resistance and more effective cancer treatments, to secure quantum communications and superfast 5G, technological advances must be built on a foundation of reliable measurement to succeed. Building on over a century's worth of expertise, our science, engineering and technology provides this foundation. We save lives, protect the environment and enable citizens to feel safe and secure, as well as support international trade and commercial innovation. As a national laboratory, our advice is always impartial and independent, meaning consumers, investors, policymakers and entrepreneurs can always rely on the work we do. Based in Teddington, south-west London, NPL employs over 600 scientists. NPL also has regional bases across the UK, including at the University of Surrey, the University of Strathclyde, the University of Cambridge and the University of Huddersfield's 3M Buckley Innovation Centre.
- The Royal Society is the science academy of the UK, which draws its Fellows from across the Commonwealth. The Society's fundamental purpose, as it has been since its foundation in 1660, is to recognise, promote, and support excellence in science and to encourage the development and use of science for the benefit of humanity. Follow the Royal Society on Twitter (@royalsociety) or on Facebook (facebook.com/theroyalsociety).

- The Institute of Mathematics and its Applications is the professional and learned society for mathematicians in the UK and exists to support and promote mathematics and its applications for the public good. It has over 5500 members, mainly professional mathematicians employed in business, industry, government, education and academia. As the chartered professional body for mathematics, it awards professional designations for mathematicians, mathematics teachers and mathematical scientists. www.ima.org.uk