



The
University
Of
Sheffield.

Information School.

Advanced Reading List 2020-21 MSc Data Science

Books for Core Modules

Introduction to Data Science

Kelleher, J.D. & Tierney, B. (2018) Data Science. MIT Press.

Grus, J. (2019) Data Science from Scratch (Second Edition). O'Reilly.

Davenport, T.H., Harris, J.G. & Morison, R. (2010) Analytics at work: smarter decisions, better results. Harvard Business Review Press.

O'Neil, C. & Schutt, R. (2013) Doing Data Science. O'Reilly.

Data and Society

Kitchin, R. (2014) The Data Revolution, SAGE Publications Ltd

Noble, S. (2018) Algorithms of Oppression. NYU Press: New York

O'Neil, C. (2016) Weapons of Math Destruction, Penguin.

Database Design

Connolly, T. & Begg, C. (2005). Database Systems: A Practical Approach in Design, Implementation and Management (4th Edition), London: Addison-Wesley.

Watson, R.T. (2006). Data Management: Databases and Organisations (5th Edition), John Wiley & Sons, Inc.

Jewett, T., Database design with UML and SQL (4th Edition). Available online:

<https://web.csulb.edu/colleges/coe/cecs/dbdesign/dbdesign.php>

Data Analysis

Krieg, E.J. (2013) Statistics and Data Analysis for Social Science. First Edition. Pearson, London

Data Mining

Witten, I.H., Frank, E. & Hall, M. (2011) Data Mining: Practical Machine Learning Tools and Techniques. Morgan Kaufman.

Kelleher, J.G., Namee, B.M. & D-Arcy, A. (2015) Fundamentals of Machine Learning for Predictive Data Analytics Algorithms, Worked Examples and Case Studies. The MIT Press.

Data Visualization

Kirk, A. (2019) Data Visualisation: A Handbook for Data Driven Design.

Sage publishing (ISBN 978-1-5264-6892-5)

Ferster, B. (2012) Interactive visualisation: insight through inquiry. MIT Press.

Heer, J., Bostock, M., Ogievetsky (2010). A tour through the visualisation zoo, ACM. Available online: <https://dl.acm.org/doi/pdf/10.1145/1794514.1805128>

Further reading

Davenport, T. (2014) Big Data at Work: dispelling the myths, uncovering the opportunities. Harvard Business Review Press.

Acenture (2013) Big Data Analytics in Supply Chain: Hype or Here to Stay. Available online:

<http://www.accenture.com/us-en/Pages/insight-global-operations-megatrends-big-data-analytics.aspx>

Chen, Hsinchun, Roger HL Chiang, and Veda C. Storey (2012) Business Intelligence and Analytics: From Big Data to Big Impact, MIS Quarterly, 36(4): 1165-1188. Available online:

<http://misq.org/misq/downloads/download/editorial/567/>

Keim, D. et al. (2010) Mastering the Information Age: Solving Problems with Visual Analytics.

Eurographic Association. Available online: <http://www.vismaster.eu/wp-content/uploads/2010/11/VisMaster-book-lowres.pdf>

Loukides, M. (2013) What is Data Science? O'Reilly. Available online:

<http://radar.oreilly.com/2010/06/what-isdata-science.html>

Provost, F. & Fawcett, T. (2013) Data Science for Business. O'Reilly.

Programming languages

If you wish to prepare by studying programming languages in advance (this is not required), we teach the following:

Knime, R, Tableau, SQL, and python (as elective)