



Course Links Reference Guide

Dave Valentine

Contents

Section #2 – Core Concepts	3
Lecture #8 - Computer Science - the 'Train Wreck' Definition	3
Lecture #9 - What's Data / "I can see data everywhere!"	3
Lecture #11 - Computer Science - Definition Revisited & The Greatest "lie" ever SOLD....	3
Lecture #12 - What's big data?	3
Lecture #13 - What is Artificial Intelligence (AI)	3
Lecture #14 - What is Machine Learning? - Part 1 - The ideas	4
Lecture #15 - What is data science?	4
Section #3 - Impacts, Importance and examples	5
Lecture #19 - Why is this important now?	5
Lecture #20 - Computers exploding! - The explosive growth of computer power explained.	5
Lecture #21 - What problems does Machine Learning Solve?	6
Lecture #22 - Where it's transforming our lives	6
Section #4 - The Machine Learning Process	7
Lecture #26 - 2 - Identifying, obtaining, and preparing the right data	7
Section #5 - How to apply Machine Learning for Data Science	8
Lecture #32 - Common platforms and tools for Data Science	8
Lecture #33 - Data Science using – R	8
Lecture #34 - Data Science using – Python	8
Lecture #35 - Data Science using SQL	9
Lecture #36 - Data Science using Excel	9
Lecture #37 - Data Science using RapidMiner	9

Section #2 – Core Concepts

Lecture #8 - Computer Science - the 'Train Wreck' Definition



- Computer Science Definition from Wikipedia, the free encyclopedia
 - https://en.wikipedia.org/w/index.php?title=Computer_science&oldid=740982864

Lecture #9 - What's Data / "I can see data everywhere!"



- ASCII Definition from Wikipedia, the free encyclopedia
 - <https://simple.wikipedia.org/w/index.php?title=ASCII&oldid=5469821>



- File:Tst.png / From Wikimedia Commons, the free media repository
 - <https://commons.wikimedia.org/wiki/File:Tst.png>

Lecture #11 - Computer Science - Definition Revisited & The Greatest "lie" ever SOLD....



- On the Media / ROBOTS! (and artificial intelligence) / April 17, 2014 Episode
 - <https://www.wnycstudios.org/podcasts/otm/episodes/on-the-media-2014-04-18>

Lecture #12 - What's big data?



- Apache Spark
 - <http://spark.apache.org/>



- Apache Hadoop
 - <http://hadoop.apache.org/>

Lecture #13 - What is Artificial Intelligence (AI)



- Edsger W. Dijkstra biography from Wikipedia, the free encyclopedia
 - https://en.wikipedia.org/wiki/Edsger_W._Dijkstra



- Artificial intelligence Definition from Wikipedia, the free encyclopedia
 - https://simple.wikipedia.org/w/index.php?title=Artificial_intelligence&oldid=5408961



- Tic-tac-toe game Definition from Wikipedia, the free encyclopedia
 - <https://en.wikipedia.org/wiki/Tic-tac-toe>



- Radiolab / Mapping Tic Tac Toe-dom / September 6, 2011
 - <https://www.wnycstudios.org/podcasts/radiolab/articles/156900-three-row>



- Lighthill report from Wikipedia, the free encyclopedia
 - https://en.wikipedia.org/wiki/Lighthill_report

Lecture #14 - What is Machine Learning? - Part 1 - The ideas



- Machine learning Definition from Wikipedia, the free encyclopedia
 - https://en.wikipedia.org/w/index.php?title=Machine_learning&oldid=741484832



- Netflix Prize description from Wikipedia, the free encyclopedia
 - https://en.wikipedia.org/w/index.php?title=Netflix_Prize&oldid=727682948



- A 195-page monograph by a top-1% Netflix Prize contestant
 - <https://www.kdnuggets.com/2016/03/netflix-prize-analyzed-movie-ratings-recommender-systems.html>



- Got Lost? – Story of Randy Bilyeu
 - <https://www.msn.com/en-ca/news/weekendreads/a-treasure-hunter-went-missing-in-the-rocky-mountains-and-a-computer-algorithm-found-him-months-later/ar-AAil0Pz>



- You don't know her, but Crystal knows you
 - <https://money.cnn.com/2015/09/03/technology/startup-crystal/index.html>



- Note to Self / This Is How Much the Internet Knows About You / May 26, 2015
 - <https://www.wnycstudios.org/podcasts/notetoself/episodes/crystal-knows-email>

Lecture #15 - What is data science?



- Machine Learning Isn't Data Science / by Nwokedi C. Idika / Oct 31, 2015
 - <https://medium.com/@nwokedi/machine-learning-isn-t-data-science-67cc66867dbc#.tvrvg9re7>



- The Data Science Venn Diagram by Drew Conway
 - <http://drewconway.com/zia/2013/3/26/the-data-science-venn-diagram>



- Battle of the Data Science Venn Diagrams
 - <https://www.kdnuggets.com/2016/10/battle-data-science-venn-diagrams.html>

Section #3 - Impacts, Importance and examples

Lecture #19 - Why is this important now?



- Fortune / Facebook Is Now More Valuable Than Exxon / by Claire Zillman / Feb 1, 2016
 - <https://fortune.com/2016/02/01/facebook-value-exxon/>



- Note to Self / Digging Into Facebook's File on You / Sept 27, 2016
 - <https://www.wnycstudios.org/podcasts/notetoself/episodes/propublica-facebook-algorithms-bias-privacy>



- Moore's law Definition from Wikipedia, the free encyclopedia
 - https://en.wikipedia.org/wiki/Moore%27s_law



- YCOMBINATOR 2014 DATA SCIENCE START-UPS
 - <https://mlwave.com/ycombinator-2014-data-science-start-ups/>



- Data Scientist: The Sexiest Job of the 21st Century / Harvard Business Review / Oct 2012
 - <https://hbr.org/2012/10/data-scientist-the-sexiest-job-of-the-21st-century>



- McKinsey Report Highlights the Impending Data Scientist Shortage / Paul M. Davis
 - <https://tanzu.vmware.com/content/blog/mckinsey-report-highlights-the-impending-data-scientist-shortage>

Lecture #20 - Computers exploding! - The explosive growth of computer power explained.



- Processing Power Compared (*link updated*)
 - <https://insightaas.com/infographic-processing-power-compared-1956-2015-experts-exchange/>



- Supercomputer Timeline
 - <https://mason.gmu.edu/~tbell5/page2.html>



- FLOPS Definition from Wikipedia, the free encyclopedia (*link updated*)
 - <https://en.wikipedia.org/wiki/FLOPS>



- Prices in the 80's
 - <http://www.inthe80s.com/prices.shtml>



- USA Today/ Average new car price zips 2.6% to \$33,560 / May 4, 2015
 - <https://www.usatoday.com/story/money/cars/2015/05/04/new-car-transaction-price-3-kbb-kelley-blue-book/26690191/>



- US Inflation Calculator
 - <https://www.usinflationcalculator.com/>

Lecture #21 - What problems does Machine Learning Solve?



- Regression Analysis Tutorial and Examples
 - <https://blog.minitab.com/blog/adventures-in-statistics-2/regression-analysis-tutorial-and-examples>

Lecture #22 - Where it's transforming our lives



- YCOMBINATOR 2014 DATA SCIENCE START-UPS
 - <https://mlwave.com/ycombinator-2014-data-science-start-ups/>



- Radio Lab / Million Dollar Microsecond / Feb 4, 2013
 - <https://www.wnycstudios.org/podcasts/radiolab/segments/267195-million-dollar-microsecond>



- Mining for Causal Relationships: A Data-Driven Study of the Islamic State
 - <https://arxiv.org/pdf/1508.01192v1.pdf>



- Campaign to Stop Killer Robots
 - <https://www.stopkillerrobots.org/>

Section #4 - The Machine Learning Process

Lecture #26 - 2 - Identifying, obtaining, and preparing the right data



- Datasets for Data Mining, Data Science, and Machine Learning
 - <https://www.kdnuggets.com/datasets/index.html>



- Largest API Directory on the Web
 - <https://www.programmableweb.com/apis/directory>



- Data Science Toolkit
 - <http://www.datasciencetoolkit.org/>



- Quora - Which are some of the best web data scraping tools?
 - <https://www.quora.com/What-are-some-of-the-best-web-data-scraping-tools>



- 5 Web Scraping Tools to Extract Online Data
 - <http://www.hongkiat.com/blog/web-scraping-tools/>



- Tidy Data by Hadley Wickham
 - <http://vita.had.co.nz/papers/tidy-data.pdf>

Section #5 - How to apply Machine Learning for Data Science

Lecture #32 - Common platforms and tools for Data Science



- Computing Platforms for Analytics, Data Mining, Data Science
 - <https://www.kdnuggets.com/2015/04/computing-platforms-analytics-data-mining-data-science.html>



- R, Python Duel As Top Analytics, Data Science software – KDnuggets 2016 Software Poll Results
 - <https://www.kdnuggets.com/2016/06/r-python-top-analytics-data-mining-data-science-software.html>

Lecture #33 - Data Science using – R



- The R Project for Statistical Computing
 - <https://www.r-project.org/>



- The “CRAN” Comprehensive R Archive Network
 - <https://cran.r-project.org/>



- Rstudio
 - <https://rstudio.com/>



- Jupyter Notebook
 - <https://jupyter.org/>

Lecture #34 - Data Science using – Python



- Python.org
 - <https://www.python.org/>



- Jupyter Notebook
 - <https://jupyter.org/>



- Python Idle
 - <https://docs.python.org/3/library/idle.html>



- Top 20 Python Machine Learning Open Source Projects
 - <https://www.kdnuggets.com/2015/06/top-20-python-machine-learning-open-source-projects.html>



- CONDA (lets you switch easily between PY versions)
 - <https://docs.conda.io/en/latest/>



- Continuum Anaconda (free) Distribution
 - <https://www.anaconda.com/products/individual>



- Enthought Canopy (free and pro) Distribution [Now discontinued]
 - <https://assets.enthought.com/downloads/>

Lecture #35 - Data Science using SQL



- SQL Definition from Wikipedia, the free encyclopedia
 - <https://en.wikipedia.org/wiki/SQL>



- MySQL (Open source implementation of SQL)
 - <https://www.mysql.com/>



- PostgreSQL (Open source implementation of SQL)
 - <https://www.postgresql.org>



- Microsoft SQL Server (Paid implementation of SQL)
 - <https://www.microsoft.com/en-us/sql-server>



- Oracle Database (Paid implementation of SQL)
 - <https://www.oracle.com/database/>



- phpMyAdmin (Open source tool used to help compose the SQL language into queries)
 - <https://www.phpmyadmin.net/>



- Toad for SQL server (Paid tool used to help compose the SQL language into queries)
 - <https://www.quest.com/products/toad-for-sql-server/>

Lecture #36 - Data Science using Excel



- Microsoft Azure Machine Learning Excel Add-in
 - <https://azuremlexcel.codeplex.com/>



- Open Office Calc (Open source tool similar to excel)
 - <https://www.openoffice.org/product/calc.html>

Lecture #37 - Data Science using RapidMiner



- RapidMiner's data science platform
 - <https://rapidminer.com/>