Introduction

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MSc in Data Science - Data Visualization

[dcc] DEPARTAMENTO DE CIÊNCIA DE COMPUTADORES
FACULDADE DE CIÊNCIAS DA UNIVERSIDADE DO PORTO

FACULDADE DE CIÊNCIAS UNIVERSIDADE DO PORTO
U.PORTO

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"Our comforting conviction that the world makes sense rests on a secure foundation: our almost unlimited ability to ignore our ignorance."

Daniel Kahneman
Thinking, fast and slow

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Number	Name	Position	L/R	Height	Weight	Birth Date	Hometown
9	Brennan Bosch	C	R	5'8"	173	Feb. 14, 1988	Martensville, SK
11	Scott Wasden	C	R	6'1"	188	Jan. 4, 1988	Westbank, BC
12	Colton Grant	LW	L	5'9"	177	Mar. 20, 1989	Standard, AB
14	Darren Helm	LW	L	6'0"	182	Jan. 21, 1987	St. Andrews, MB
15	Derek Dorsett	RW	L	5'11"	178	Dec. 20, 1986	Kindersley, SK
16	Daine Todd	C	R	5'10"	173	Jan. 10, 1987	Red Deer, AB
17	Tyler Swystun	RW	R	5'11"	185	Jan. 15, 1988	Cochrane, AB
19	Matt Lowry	C	R	6'0"	186	Mar. 2, 1988	Neepawa, MB
20	Kevin Undershute	LW	L	6'0"	178	Apr. 12, 1987	Medicine Hat, AB
21	Jerrid Sauer	RW	R	5'10"	196	Sept. 12, 1987	Medicine Hat, AB
22	Tyler Ennis	C	L	5'9"	160	Oct. 6, 1989	Edmonton, AB
23	Jordan Hickmott	C	R	6'0"	183	Apr. 11, 1990	Mission, BC
25	Jakob Rumpel	RW	R	5'8"	166	Jan. 27, 1987	Hrnciarovce, SLO
28	Bretton Cameron	C	R	5'11"	168	Jan. 26, 1987	Didsbury, AB
36	Chris Stevens	LW	L	5'10"	197	Aug. 20, 1986	Dawson Creek, BC
3	Gord Baldwin	D	L	6'5"	205	Mar. 1, 1987	Winnipeg, MB
4	David Schlemko	D	L	6'1"	195	May 7, 1987	Edmonton, AB
5	Trever Glass	D	L	6'0"	190	Jan. 22, 1998	Cochrane, AB
10	Kris Russell	D	L	5'10"	177	May 2, 1987	Caroline, AB
18	Michael Sauer	D	R	6'3"	205	Aug. 7, 1987	Sartell, MN
24	Mark Isherwood	D	R	6'0"	183	Jan. 31, 1989	Abbotsford, BC
27	Shayne Brown	D	L	6'1"	198	Feb. 20, 1989	Stony Plain, AB
29	Jordan Bendfeld	D	R	6'3"	230	Feb. 9, 1988	Leduc, AB
31	Ryan Holfeld	G	L	5'11"	166	Jun. 29, 1989	LeRoy, SK
33	Matt Keetley	G	R	6'2"	189	Apr. 27, 1986	Medicine Hat, AB

2007 Medicine Hat Tigers (junior hockey team)

Outlier, Malcolm Gladwell

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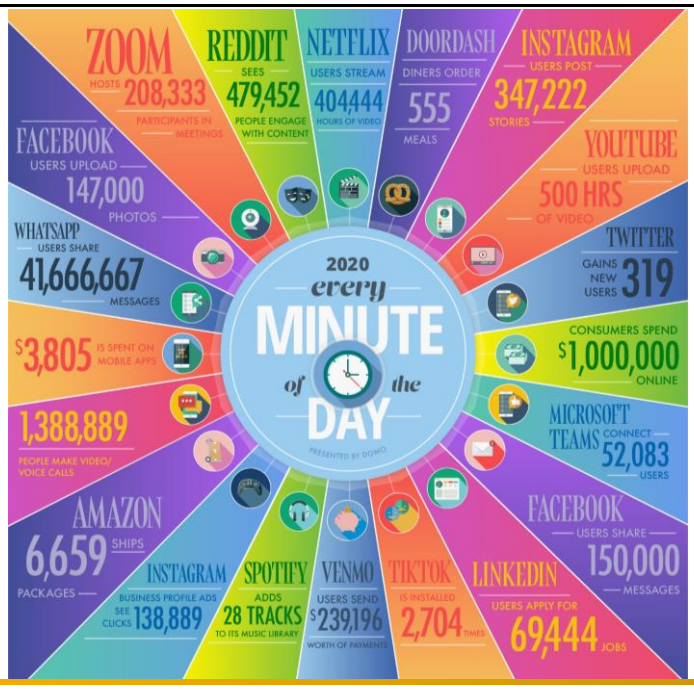

https://www.socialmediatoday.com/news/what-happens-on-the-internet-every-minute-2020-version-infographic/583340/

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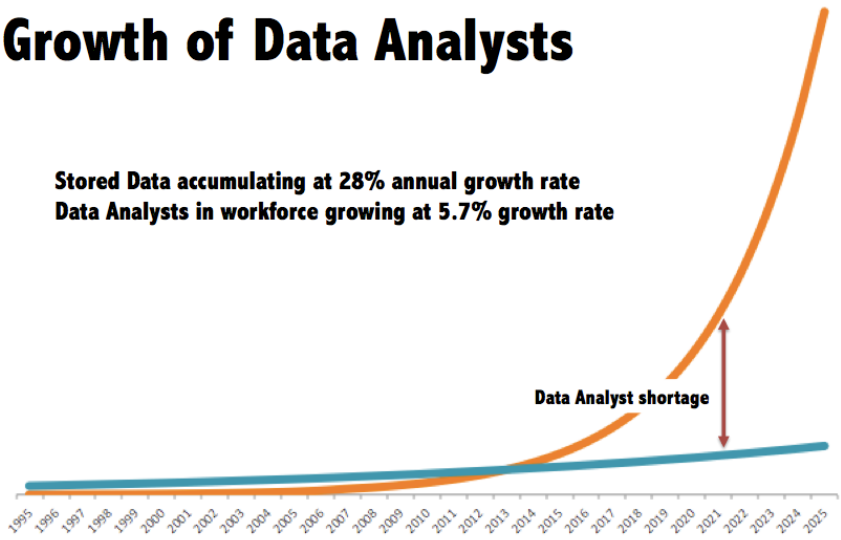
Growth of Data vs. Growth of Data Analysts



http://www.delphianalytics.net/more-data-than-analysts-the-real-big-data-problem/

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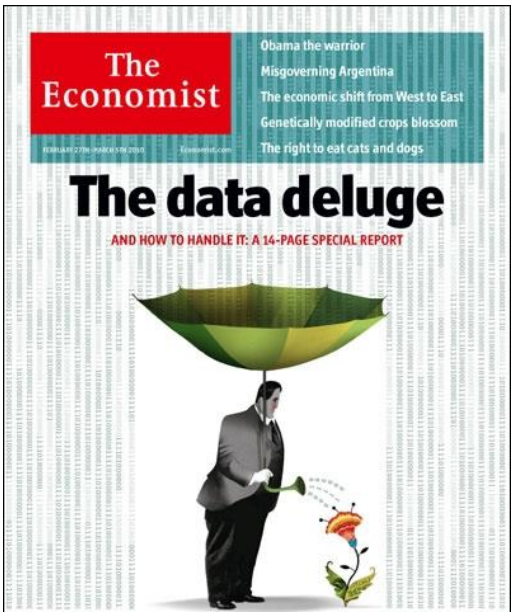
How to survive this data deluge?



The Economist, 2010

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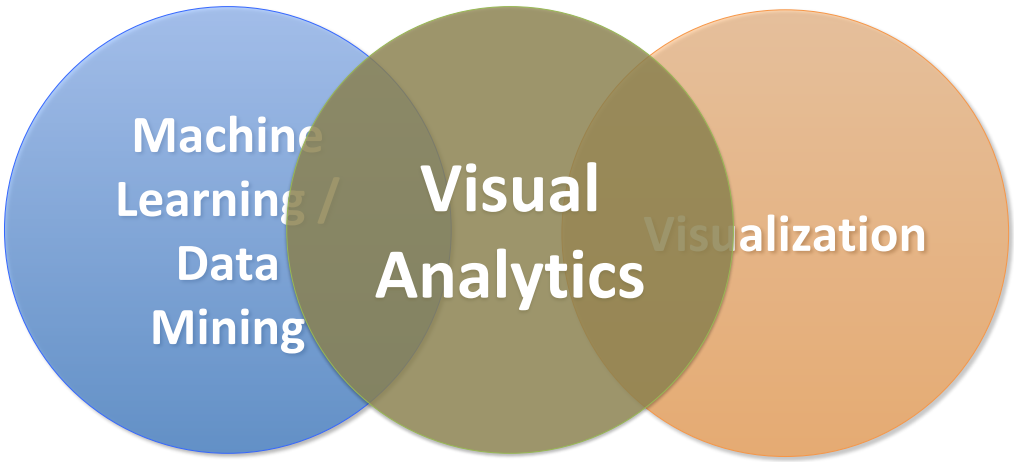

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Do I need Visual (analytics) solutions?

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What to expect from this course?

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Learning Objectives

Develop the abilities and skills to:

- Devise visualizations appropriate to the type of context and to the problem to be explored
- Create and enhance graphics using R and Python tools
- Integrate graphics developed in R / Python into interactive environments
- Design and develop a (big) data access dashboards for interactive manipulation of multiple graphs.

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Evaluation Criteria

- **Mini-test (MT)** [10%]
  - In the first half of the semester
- **Project Proposal (PP)** [10%]
  - Exploratory analysis of the dataset
  - Initial understandings of the data
  - Situations to be analyzed by data visualizations
  - Submit a 4-page project proposal
- **Project Development (PD)** [40%]
  - Data wrangling
  - Detailed analysis of the data
  - Creation of visualizations
  - Analysis of the insights obtained
  - Iterate
  - Report in a 6-page IEEE format article
- **Final Presentation (FP)** [10%]
  - Group presentation with demo
  - Poster submission (optional)
- **Exam (EX)** [30%]
  - About 60-mins exam in Moodle, mainly covering the theoretical part of the course
- There is no minimum grade.