

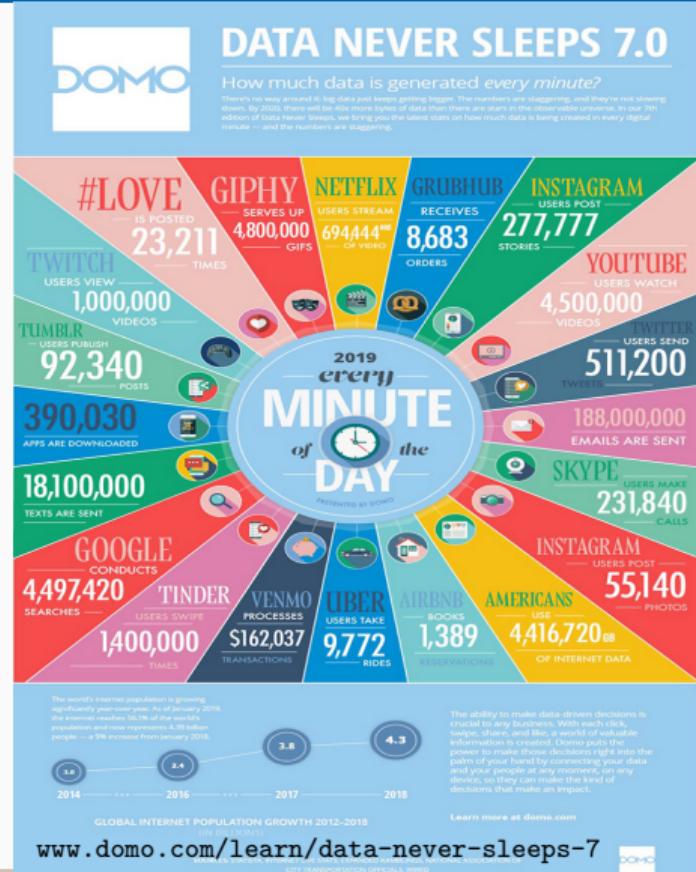
# Drive change with big data

Professor Rob J Hyndman

[monash.edu/business/master-of-business-analytics](http://monash.edu/business/master-of-business-analytics)

# Data is collected everywhere and at any time

The ability to make data-driven decisions is crucial to any organization.



# A 10 year forecast



**Hal Varian,  
Chief Economist, Google:**

I keep saying the sexy job in the next ten years will be statisticians. People think I'm joking, but ... the ability to take data—to be able to understand it, to process it, to extract value from it, to visualize it, to communicate it—that's going to be a hugely important skill in the next decades. (2009)

# Best jobs in the world (2019)

- 1 Data Scientist (19% growth)
- 2 Statistician (33% growth)
- 3 University Professor
- 4 Occupational Therapist
- 5 Genetic Counselor
- 6 Medical Services Manager
- 7 Information Security Analyst
- 8 Mathematician
- 9 Operations Research Analyst
- 10 Actuary

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- Median salary US\$114K
- Strong sustained projected growth
- Good working environment, low stress, interesting problems

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**Organizations need to make:**

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- Informed decisions based on facts 
- Facts are measured with data 
- Business analytics experts use statistical and computational methods to answer business relevant questions using data 
- Business analytic professionals are able to communicate findings to experts and broad audiences 

# Master of Business Analytics → Starting 2020

- Learn end-to-end analytics including data collection, modeling, collaboration & communication
- Broad foundation: statistical thinking, probabilistic modeling & computational techniques
- Social conscience, working for a better world





Monash MBAT is the only masters course in the world based entirely around R and taught by leading R developers.

- The leading statistical programming framework.
- Completely free and open-source
- Used by every major company in the world
- Supported by Microsoft, Google, Facebook, Amazon, etc

- Monash instructors have written many widely used R packages
- Monash instructors are engaged with the international R community.
- Leading R developers visit Monash regularly.

# Master of Business Analytics → Starting 2020



- Taught by internationally renowned researchers.
- Cutting edge, focusing on problem solving and hands-on experience.
- Focus on wild data, real problems. We regularly advise industry and government.
- Fiercely independent: we only teach open-source software.

## MBAT users profile

- At least **one unit of undergraduate statistics.**

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- A combination of **curiosity in quantitative and computational methods** with a **desire** to make a difference.
- An **undergraduate degree** that has sparked your interest to work with data to answer real life questions.



## A: Advanced preparatory studies (24 credit points)

- ETC5510: Introduction to data analysis
- ETC5242: Statistical thinking
- ETC5250: Introduction to machine learning
- ETC5550: Applied forecasting

- ➔ Depending on prior qualifications, credits might be received for (A)
- ➔ All students will complete (B) and (C)



## B: Mastery knowledge (48 credit points)

- ETC5512: Wild-caught data
- ETC5513: Collaborative and reproducible practices
- ETC5521: Exploratory data analysis
- ETC5523: Data story-telling
- ETF5500: High dimensional data analysis
- ETC5555: Statistical machine learning
- ETC5580: Advanced statistical modelling
- ETC5543: Business analytics creative activity  
(12 points internship or research project)



## C: Application studies (24 credit points)

### Four elective units

- FIT9133 Programming foundations in Python
- FIT5205 Data in society
- FIT9132 Introduction to databases
- MAT9004 Mathematical foundations for data science
- ETC5410 Bayesian time series econometrics
- FIT5147 Data exploration and visualisation
- ETC5555 Statistical machine learning
- FIT5212 Data analysis for semi-structured data



# MBAT: A World full of opportunities

- **Location and duration:** 1.5 or 2 years full time or 3 or 4 years part time @ Monash Clayton.
- **Applications** for our Semester 1 intake (February 2020) are now open (including a candidate statement).
- **Entry requirements:** Australian bachelor's degree or an equivalent qualification with a weighted average mark (WAM) of 65, or equivalent GPA as determined by the School.

**Many thanks!**

**Questions?**

