



# 浙江大学爱丁堡大学联合学院 ZJU-UoE Institute

## Introduction to the course

ADS 2, Lecture 1

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Semester 1, 2019/20

So ... you have made it to year 2 of BMI!



# WHAT NOW?!



## Objectives for this session

- Learn about how this course is organised
- Start thinking about numbers and probabilities

1 Introduction to ADS2

2 Thinking about numbers and probabilities

# “Big picture” idea for Applied Data Science 2

Understand probability and statistics through running computer simulations

still.png

# Learning Objectives for Applied Data Science 2

After taking this course, you will be able to:

- Critically evaluate statistical representations in the scientific literature, as well as popular media
- Describe common methods for statistical inference and hypothesis testing, understand what data sets they can be applied to, and perform and interpret common hypothesis tests
- Understand the components of a dataset, handle and prepare raw data for further analysis, and display and describe datasets in meaningful ways, while considering ethical implications of data gathering, storage, analysis, and presentation
- Understand the probabilistic underpinnings of frequentist and Bayesian statistics
- Name and describe common Machine Learning methods and implement simple machine learning tasks

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- Name and describe common Machine Learning methods and implement simple machine learning tasks

Discuss: Which of those do you have some experience with?



# Course format

## Weekly format

- 1 Lecture
- 1 Practical or Tutorial
- Weekly problem set (not compulsory)

## Take note

- Some weeks are different (due to holidays)
- Rooms vary with content, please double-check!



## Computers

You should bring your own computer. If you don't have one (or if it breaks down), contact course organisers as soon as possible.

## Summative (graded):

- Open-book timed coding challenge, semester 1 (30 %)  
Semester 1 exam period
- Data analysis group project (30 %)  
Deadline: 11 May 2020, noon
- Open-book timed coding challenge, semester 2 (40 %)  
Semester 2 exam period

## Formative (for practice):

- Weekly problem set: mixture of math, coding and discussion questions; should take around 1 hour to complete. Not graded, but notes will be provided at the end of the week

# Course staff

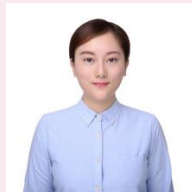
## Course management



Dr. Mela Stefan  
Course Organiser  
UoE



Dr. Wanlu Liu  
Deputy CO  
ZJE



Cheryl Chen  
Course Admin  
ZJUE

## Teaching staff

- Teaching staff from ZJU and UoE
- Check weekly schedule and materials for details

## Discuss

## Discuss

- Where do you get information with the course?
- Who can help you with problems?
- Who should you complain to?

# Class reps

Let's start by thanking last year's class reps!



Adele



Jeff



Edison

# Class reps

Let's start by thanking last year's class reps!



Adele



Jeff



Edison

Who would like to be a class rep this year?

1 Introduction to ADS2

2 Thinking about numbers and probabilities



## Background

- Thinking about the world in terms of numbers and probabilities is an important skill.
- This skill can be practiced by estimation exercises: You are asked to give a rough estimate of a large(-ish) number.
- Solve these without using the internet, just using your awesome brain (and that of the person next to you).
- Using a calculator is allowed.

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# What questions do you have?

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# Image credits

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- Edison Kang. From <https://github.com/Edison19991109/>
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- Three students working on computers. By Yuuki Guzman and Agoston Tyll (Okinawa Institute of Science and Technology), 2015.
- Wanlu Liu. From <http://zje.intl.zju.edu.cn/en/our-team/faculty>