Consultancy-Style Research Projects: Information Session

University of Edinburgh

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Consultancy-Style Research Projects

Coordinators

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Consultancy-Style Research Projects
Why?

↪ Consultancy-Style Research Projects are a key part of the training for the MSc in SwDS.

↪ An MSc in SwDS without a Consultancy-Style Research Projects would be like an MSc in Chemistry without a lab experience.

Statistics with Data Science MSc

The Statistics with Data Science MSc programme is designed to train the next generation of statisticians with a focus on the newly recognised field of data science. The syllabus combines rigorous statistical theory with wider hands-on practical experience of applying statistical models to data.

Overview

Study Programme

Consultancy-Style Research Projects
Remote work

↪ All summer projects will run remotely, so students will not be required to be in Edinburgh to complete them

↪ We plan to use Zoom for the synchronous sessions and post technical guidance on Learn

↪ Asyncronous Q&A will be handled through Piazza: make sure you sign up!

↪ It is not yet clear if there will also be an option to complete them on campus, but we will have more clarity on this in the next 1-2 months

Consultancy-Style Research Projects
Dates

↪ **Written component** (80%)

  ↪ **Project 1** (40%)

    ↪ Week of the initial meeting: Monday 31/05/2021 – Friday 04/06/2021.

    ↪ Submission deadline of report: Friday 02/07/2021.

  ↪ **Project 2** (40%)

    ↪ Week of the initial meeting: Monday 05/07/2021 – Friday 09/07/2021.

    ↪ Submission deadline of report: Friday 06/08/2021.

↪ **Communication skills component** (20%)

  ↪ Format is similar to what you had done for Statistical Research Skills (poster + live presentation)
  ↪ Deadline will be on Monday 16/08/2021.

Consultancy-Style Research Projects
Format

↪ For each project, an individual typeset report carefully describing the statistical techniques used for the analysis, results obtained, and corresponding interpretation of the results has to be submitted.

↪ The reports for each project have a word limit of 5000 words (this is roughly 20 pages, double spaced, of writing, but your project will likely be longer due to tables and figures).

↪ The work presented in the submitted report must be **your own independent work**. Submitted reports will be carefully checked for signs of plagiarism.

↪ A couple of past reports (to serve as examples) will be uploaded on Learn in due time.

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Background material/Initial meeting

- ↪ **Background material**

  - ↪ One week prior to the initial meeting, supervisors will upload on Learn appropriate background material including the data, a summary of the problem, and background reading.

- ↪ **Initial meeting**

  - ↪ For each project, there will be a kick-off meeting where the research expert/industrial partner will introduce students to the problem to be investigated. This will provide an unique opportunity for students to interact with the expert and to ask questions.
  - ↪ This will be a synchronous virtual session and it will also be recorded and posted on Learn.

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Drop-in sessions

↪ There will be weekly drop-in sessions for students for the duration of the project.

↪ This is where you will be able to

  ↪ Seek advice.

  ↪ Get feedback.

  ↪ Regularly check your work with the supervisors.

↪ The word here is **proactivity**!

↪ These will also be a synchronous virtual sessions and parts of these might also be recorded and posted on Learn.

Consultancy-Style Research Projects
Feedback

↪ Feedback on the first project report will be given within 15 working days of submitting it.

↪ This feedback will be useful for the preparation of the second report.

↪ A marking scheme will be made available a week before the start of the first project.

↪ The marking scheme emphasises the usefulness of the contents of the report to the client, and 60% of the overall mark will be assigned according to the criteria whether this report is presentable to the client.
  - ↪ It is practically impossible to create work that is of interest to the client without regular weekly discussions with your project supervisors and the expert.
  - ↪ For example, a report mainly consisting of literature review without significant data analysis aiming to answer relevant questions in the project will score very poorly on this criteria.

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Communication

$\hookrightarrow$ The exact format of the communication piece will be determined in the next month and communicated via Learn.

$\hookrightarrow$ We will have clarity on this well before projects begin and lots of technical guidance.

Consultancy-Style Research Projects

Projects' areas for this year

$\hookrightarrow$ Students will have the opportunity to choose between projects for each set of projects – look for an email tomorrow morning with a link to a survey.

$\hookrightarrow$ Preferences submission will be by the 6th of April.

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Choices for first project

$\hookrightarrow$ Anomaly Detection with Bayesian Neural Networks (Lloyds Banking Group)

$\hookrightarrow$ Understanding forest damage in Germany: Finding key drivers to help with future forest conversion of climate sensitive stands (Forest Research Institute Baden-Wuerttemberg)

$\hookrightarrow$ Understanding the drivers of behind future demand for hospital services in Scotland and to support the development of wider whole system modelling (Public Health Scotland)

$\hookrightarrow$ Reselling second-hand items: Identifying the likelihood of stuff being sold online (Thrift)

Consultancy-Style Research Projects
Choices for second project

↪ Pisa 2015 and 2018: Comparison of educational attainment between England, Scotland, Wales and Northern Ireland (Organisation for Economic Co-operation and Development)

↪ How does DNA sequence specify gene expression in a timecourse of fungal growth? (UoE Cell Biology)

↪ Hidden Markov models as tools to identify seabird foraging areas (Joint Nature Conservation Committee)

↪ Neural De-Duplication and Record Linkage (Amazon)

Thank you for your patience!

Questions?