FlipAround

MDSI student community

Contents

Chapter 1

Welcome

MDSI is unique in its approach and feel. MDSI is a 'boutique degree' which means we are a small tight-knit data family which means the contacts you walk out (really) knowing are going to be more valuable than the skills you learn. In terms of content, our point of difference is the innovation in our name. We take our innovation component as seriously as data science, and is ingrained in everything that's taught. For us, a data science degree was our innovation (we were the first of its kind in Australia), and in the rapidly changing context that is data, the ability to innovate and adapt is a pretty great point of difference for you too.

Data science is a collaborative discipline. Students in the MDSI program get hands on experience of working in teams to formulate and solve real-life data science problems. Most courses focus on techniques to solve problems, but spend very little time (if any) on how problems should be formulated. The MDSI program is structured in a way that helps students learn this tacit, but crucial skill.

Another important aspect of data science is that it is a rapidly evolving field. A data scientist must therefore be able to stay current with developments in the field. The MDSI program, with its emphasis on critical self-learning, prepares students to be lifelong learners.

Welcome, and good luck on your MDSI journey

1.1 Checklist of things to do

Getting started on your MDSI journey can be somewhat overwhelming. So to help you ease into life as an MDSI student, the following checklist will help you to get up and running as painlessly as possible.

- Do your statistics pre-flight test
- Activate UTS student email
- Forwarded UTS student email if required
- Review Subject Outlines
- Activate and personalise CICAround
- Do your CLARA profile
- Log into Diigo
- Join the Slack Channel
- Log into Review
- Log into SPARK
- Test your Google Drive
- Test your Office 365 Drive
- Download R & R Studio
- Download Python & Rodeo

- Download Tableau
- Download KNIME

1.2 Pre-flight tests

MDSI statistics pre-flight test: http://www.uts.edu.au/future-students/analytics-and-data-science/essential-information/mdsi-statistics-pre-flight-test

Chapter 2

The data science mindset

2.1 CLARA

2.2 Competencies

2.3 Ethics amd Privacy

Its important to understand that security, privacy and ethics are three different things, although heavily intertwined in the 'internet of things'.

What is ethical when it comes to data and the internet of things? Is privacy having a login or not being identifiable as an individual?

The world of Ethics and Privacy is changing, similar to the definition that now includes much more than it did a decade ago. Computer security like a login is no longer sufficient to providing protection of privacy which is more focused on ensuring that only people who should have the authority to access your information should be able to.

Current Privacy legislation addresses control and authentication processes of whom can access your information via direct disclosures and how this information should be stored by the party who is collecting this information, it does not address disclosures that can be made based on inferences that can be drawn from big data of which your information is a part. Is the value or conclusions that could be drawn from information as part of big data considered private information?

A sensible framework in relation to Ethics and Privacy where data is concerned is highlighted in the Belmont report which identifies two rules to consider "(1) do not harm and (2) maximize possible benefits and minimize possible harms."

A big ethical dilema of late is the rich data sources that various provider hold, that if pooled together will strip all possibility of anonymity.

For more on this read:

http://www.tandfonline.com/doi/full/10.1080/08900523.2014.863126?src=recsys http://libres.uncg.edu/ir/uncg/f/N_Kshetri_Big_2014.pdf

2.4 Digital Footprint

Your digital footprint is the name given to the data that is recorded about you all day every day. It can be the time and phone number of someone that you called, the mobile phone tower that you were connected to at the time of making the call and how long you spoke for. It is the IP address of your computer when you connect to the internet. It is the list of items you pay for when you go through the checkout at the supermarket and the eftpos card number you used to pay for the items. It is the surveillance footage you appear in when you move through monitored public spaces. It is stories you 'like' or share on social media sites. It is the journeys that your GPS navigation stores about your travels. It is every email you send and every click you make when you browse the internet.

Your digital footprint is the inescapable record of your existence by doing nothing more than living your life. It is an important aspect of modern society as many services that you enjoy depend on the data you generate in order to provide critical services. A bank can't tell you how much money you have without keeping record of your bank transactions. For good or for evil, this data comes embedded with far more information about you. By looking at the kinds of things you spend your money on or the businesses that you spend your money at and the time of day that you spend your money there, it can be determined where you live and where you work.

As an MDSI student, you will learn to think critically and ethically about data collection and how it can be used for good and for evil. The best place to start your thinking is with your own digital footprint, become aware of how big it is and how you feel about it.

It's important to note that very little permission is sought on data collection and when it is sought, very little education is provided in terms of the use of that data. Very few providers who collect data clarify or specify what the data they collect is used for.

You are responsible for your digital footprint. Generate it wisely.

2.5 Opportunity for overseas exchange

Some great opportunities exist within MDSI with our Program Director having many contacts in many other countries which enable us to be able to explore greater opportunities for overseas exchange.

You need to do a few things before this opportunity is explored as set out by the Program Director to ensure for an easier way forward if this is an opportunity you want to explore.

2.6 Electives

You need to select four electives during your MDSI course. These electives should be selected to assist you in your growth as a student and as a data science professional. These subjects enable you to add to your toolbox of where you are heading with your journey.

Electives can be selected from any school however you will still be subjected to the pre-requisites for any possible subject, so it will depend on the requirements of the subject.

We suggest that when you apply for a subject with a prerequisite that you also apply for a waive of the prerequisite if the prerequisite is a subject you are familiar with but have not done with UTS and get exemption for that requisite.

This is not always easy, or approved and is subject to each School's internal views or policies. It is definitely a consideration to take.

You can apply for the subject (and a waiver of prerequisites if required) early as CIC is not limited by inter-faculty time restrictions.

Our best tip is : get in early.

Chapter 3

A 'survival guide' to MDSI

3.1 First steps

3.1.1 Your UTS email:

First and foremost you need to activate your UTS email address. All official communications from UTS, subject notifications, MDSI newsletters etc will be sent to this email address. You need to activate your email address before you can access other UTS systems.

Activate your UTS Student email:

- Navigate to https://email.itd.uts.edu.au/webapps/myaccount/activation/ and follow the steps to activate your UTS student email account.
- **Pro-tip:** If you don't want to login frequently to check if you have mail, simply setup a email forwarding to an email address of your choice via the settings page after logging in.

3.1.2 Get your subject outlines:

MDSI uses a variety of systems for online teaching and learning. UTSOnline and CICAround are the two primary environments for you to familiarise yourself with.

The first thing you need to do after activating your email address is to login to UTSOnline, access your subjects and find your subject outline. Your subject outline contains everything you need to know about your subject for the coming semester. It includes the contact information for your subject co-ordinator, important dates, assessment descriptions and much more. In most cases you can find the answer to any question you might have about your subject addressed in the subject outline.

Find your subject outlines in UTSOnline:

- Login to UTSOnline at https://online.uts.edu.au/ using your student ID number and the password you setup for your UTS email account.
- Access your subjects by clicking on your subject name
- Download your subject outline by clicking on the link titled 'Subject Outline' in the left side menu, then click on the subject outline link on the page.

3.2 Technology

3.2.1 Join the MDSI community:

Your next stop should be CICAround. Here you will connect with your peers in an academic capacity. There are discussion forums for your subjects where you can post questions. CICAround most notably is where you will go to blog about your experiences throughout your MDSI journey. The first step is to activate your blog. Then you can browse through the blogs of your new MDSI family and read about their experiences and the things they have learnt.

Activate and personalise your CICAround profile: - Navigate to https://ca.uts.edu.au/using-ca/ - Watch the welcome video then login to CICAround using your student ID and password. - Put up your first CICAround Blog post

3.2.2 Join the MDSI chatter:

Slack has proven to be a very useful tool so far. It is completely driven by the student community and is where the MDSI student community goes to socialise, organise BBQs, ask each other for technical help and share useful resources. If you need a quick answer, Slack is the place to go.

Join the Slack Channel - You can download the Slack application from https://slack.com/downloads - You can also get the app for IOS, Android and Windows phones. - You do not need to pay for a subscription. - Signup to the MDSI group at: https://utsmdsi.slack.com/

3.2.3 Diigo

A collection of resources contributed by the MDSI community.

Join the Diigo group - simply create a Diigo account and request access. https://groups.diigo.com/group/cic_mdsi

Frequently used search tags include: > "DSI,DAM,Data,big_data,case,studies,visualization,teaching_tools,statistics,stats-thnkg,privacy,Algorithms,ethicsVSD,realworldDM,video,Analytics,human-machine,history,data,mining,Data_science,cisco,r,sets,accountability,digital_futures,tools,DM,reading,DVN,equality,infographic" >

3.2.4 Review

Review is an assessment tool that is used to mark your work, give you feedback about your work and for you to develop a sense of what is expected by marking your own work before it is assessed by teaching staff.

Bibliography