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ANLY482 Analytics Practicum
AY2017-18 Term 2

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Content

- Ice breaking session
- Data analytics practicum
- Topics to explore

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What is Analytics Practicum?

- Analytics practicum is designed to give students **supervised practical application** of a previously or concurrently studied analytical methods and techniques. It is often being conducted in **a specialized field of study** (such as marketing, business, retail, education, healthcare, transport, housing) with a **real world business**.

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3

Data Analytics skills

- Consulting skills
  - Problem identification skills
- Learn to Learn skills
  - Literature research
- Do skills
  - Data collection and preparation
  - Data Analysis
  - Interpretation
- Reporting skills
  - Communication
  - Technical writing
- Project Management skills

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Knowing You and Knowing Me!

- At least **two** persons and not more than **three**.
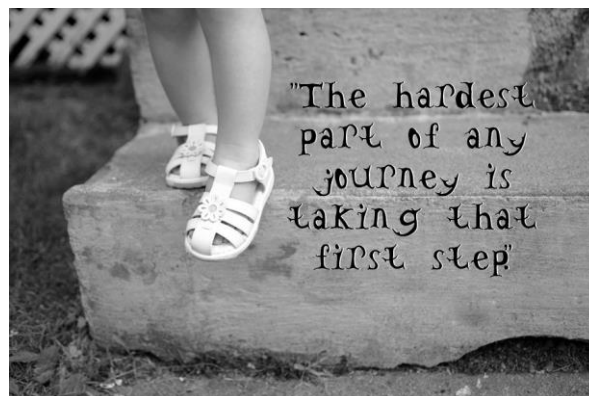

Who should not be here!

- Yet to take ANLY104 Analytics Foundation.
- Yet to take at least two advanced analytics courses such as Visual Analytics, Data Mining, Data Warehousing.
- Plan to take more than 4 courses next term.
- Plan to take IS480 next term.
- Failed to form a three-person team by 6th November 2017.
- Failed to secure a project by 25th December 2017.

Scope of Work

- To identify the business problem,
- To compile the necessary data,
- To transform the data into analytics data mart,
- To perform the analysis by using appropriate analytics techniques and tool(s), and
- To present their findings to the stake-holder of the project sponsor organisation.
- To document the lesson learned through working on the project in the form of practice research paper and present their paper at the Undergraduate Conference of Data Analytics.

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7

The Analytics Practicum Start Here!

"The hardest part of any journey is taking that first step"

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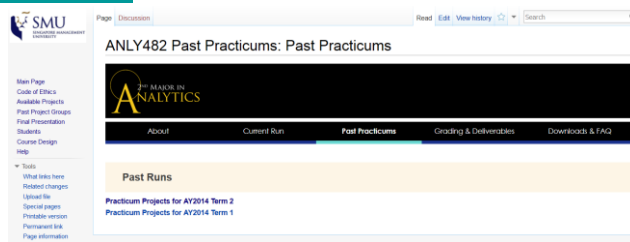SMU
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8

How to search for practicum sponsor?
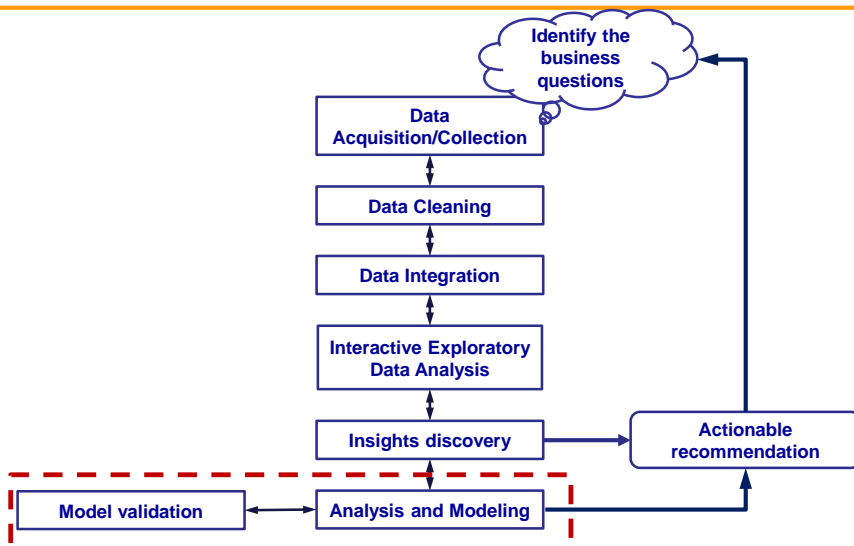
Analytics Practicum wikipage

- For example, please refer to https://wiki.smu.edu.sg/ANLY482/ANLY482_Past_Practicums%3A_Past_Practicums especially the followings:
  - https://wiki.smu.edu.sg/ANLY482/AY2014_Term_2
  - https://wiki.smu.edu.sg/ANLY482/ANLY482_AY2015-16_Term_2
  - https://wiki.smu.edu.sg/ANLY482/ANLY482_AY2016-17_Term_2

What makes Practicum projects successful?

- Have a general goal for the client organization that is stated in business terms rather than technical terms
- Have a significant volume of data available to support the analysis
- Require students to work hard to understand the business context
- Do not have an easy solution
- Are of serious interest to the client company, and have an internal champion

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11

Data Analytics Processes

Identify the business questions

Data Acquisition/Collection

Data Cleaning

Data Integration

Interactive Exploratory Data Analysis

Insights discovery

Actionable recommendation

Model validation ← → Analysis and Modeling

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12

Analytics Practicum Milestone

- Project hunting!: Now until end of AY2017-18 Term 1
- Project proposal
- Interim
- Final

Analytics Practicum Proposal

- Deadline: **7th January 2018 at 23.59 (Sunday, mid-night)**
- Analytics Practicum Proposal Grading - 15%
  - Analytics Practicum wikipage - 5%
  - Analytics Practicum Proposal Report - 10%

Analytics Practicum Proposal

- Overview
- Motivation
- Objectives
- Data
  - Provide metadata and sample dataset(s)
- Methodology
  - A clear discussion on the analytical method(s) your team planning to use
- Scope of Work
- Work Plan
  - In gantt chart format with detail daily or weekly task allocations

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15

Interim Practicum Report and Wiki

- Deadline: **25th Feb 2018, at 23.59 (Sunday, mid-night)**
- Interim practicum presentation: **Week 8: 26th Feb – 4 Mar 2018** (8.30am – 11.30am, 1.30pm-5.30pm).
- Grading - 30%
  - Analytics Practicum Interim Report in wikipage - 5%
  - Quality of Analytical Sandbox – 15%
  - Interim Presentation – 10%

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16

Analytics Practicum Interim Report

- Interim Report
  - Focus on the progress of the practicum todate.
  - Documentation of the practicum meeting with practicum sponsor and coordinator.
- Revised Analytics Data
  - Including complete metadata
- Revised Methodology
  - Clear understanding of the method(s) used.
- Revised Scope of Work
- Revised Work Plan

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Final (55%)

- Undergraduate Conference on Data Analytics (35%)
  - Abstract: 5%
  - Conference paper: 20%
  - Poster: 10%
- Final artifact (15%)
  - Analytical sandbox
  - Application, if any
  - Analysis programming code, if any
- Practicum wiki (5%)

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Undergraduate Conference on Data Analytics

- Abstract submission deadline: **1st April 2018, at 11.59PM** (Sunday mid-night)
- Full paper submission deadline: **8th April 2018, at 11.59PM** (Sunday mid-night)
- Conference day: **14th -15th April 2018, from 9.00am-6.00pm**
  - Poster session
- Final submission deadline: **22nd April 2018, at 11.59PM** (Sunday mid-night)

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19