

ANL488 Business Analytics Applied Project

Pre-semester Briefing 30 May 2023

Agenda

- Introduction
- Using Data from Data Sponsors
- Using Data from Company
- Supervisors Profile
- List of Projects for Jul 2023 semester
- Enhance Your Resume
- Question & Answer

Introduction

Focus of ANL488

- Conceptualise and conduct a business analytics project of relevance to what is practiced in industry.
- Utilise knowledge and skills learnt in a project environment and apply appropriate data mining techniques for generating useful inputs for business decision making.



ANL488

- 10 CU
- Two full semesters but can be finished in one, provided standards are met
- Contact your assigned supervisor regularly
- Meet at least 5 times (excluding the presentation)
- Plagiarism is not tolerated
- Adhere to all timelines
- Handbook will be sent out together with the briefing slides. It can also be found in ANL488 L group in Canvas once is available. Pls check for new version at the start of the semester.

Mode of Communication

- Use SUSS email to communicate with their supervisors and staff of the University.
 - Any changes to the Course, its outline and project submission timelines will be posted on the Canvas. It is the student's responsibility to be aware of the information.*
 - Students should take note of all announcements made in the Canvas, via emails and in seminar*.
 - Expect to spend at least 15 hours per week for this course.
- * From now till 12 Aug 2023, communication will be via email till Canvas for ANL488 is accessible.

Assessment Components

Component	Description	Weightage
OCAS	Project Proposal Report	20%
OES	Oral Presentation (Zoom)	20%
	Final Report (ONLY ONE-TIME SUBMISSION ALLOWED)	60%

To gain at least a PASS (or credit) students have to:

- a. Achieve at least 40% for the Project Proposal Report
- b. Achieve at least 40% for Oral Presentation and Final Report

All marks contribute to a single final rank score, from which a Letter Grade will be awarded as the Course Result.

Types of Project

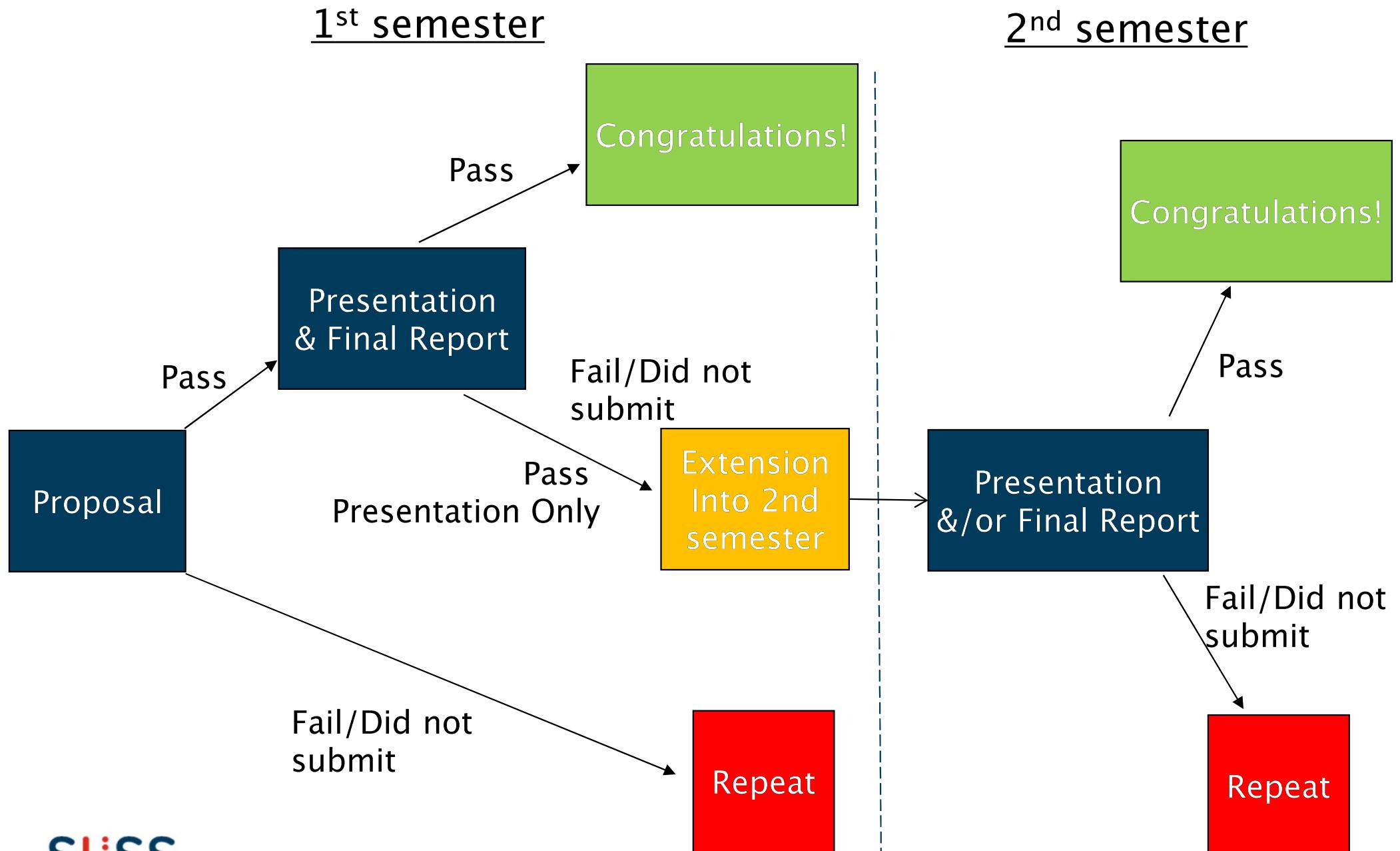
- Application and implementation

Use one or more data mining techniques taught in the business analytics programme (e.g., association, clustering, predictive modelling, web mining and text mining etc.), or combining various techniques into a data mining solution for a specific problem.

- Development of new analytical methodology.

Proposed topic must be related to one or more of the topics discussed in the programme, and not simply a summary of the materials covered in classes or the provided readings. The objective of such a project is to go beyond the class materials and examine one of the topics in a much more in-depth manner.

Flow



Role of Supervisor

- Provide academic guidance and direction.
- Not to enforce English or grammar standards.
- Can extend advice to the student but it is up to the student to accept such advice (students should consider the supervisor's advice seriously)



Role of Student

- Responsible for the final outcome of student's own project.
- All citations, references and fieldwork as well as the project are the sole responsibility of the student.
- Ensure that all copyrights are properly observed and where necessary, appropriate permissions are granted. This includes seeking permission from any authorised person(s) or organisation for the use of data by using the Non-Disclosure Agreement(NDA) found in Appendix D of the ANL488 Student Handbook.
- Submit your NDA to your supervisor/Mechelle by noon, **8Sep2023**. If an official introductory letter from SUSS on your intent to get data is required, email Mechelle (mechelle@suss.edu.sg) to get official letter signed by HoP.
- Adhere to timelines.

Final Report Requirements

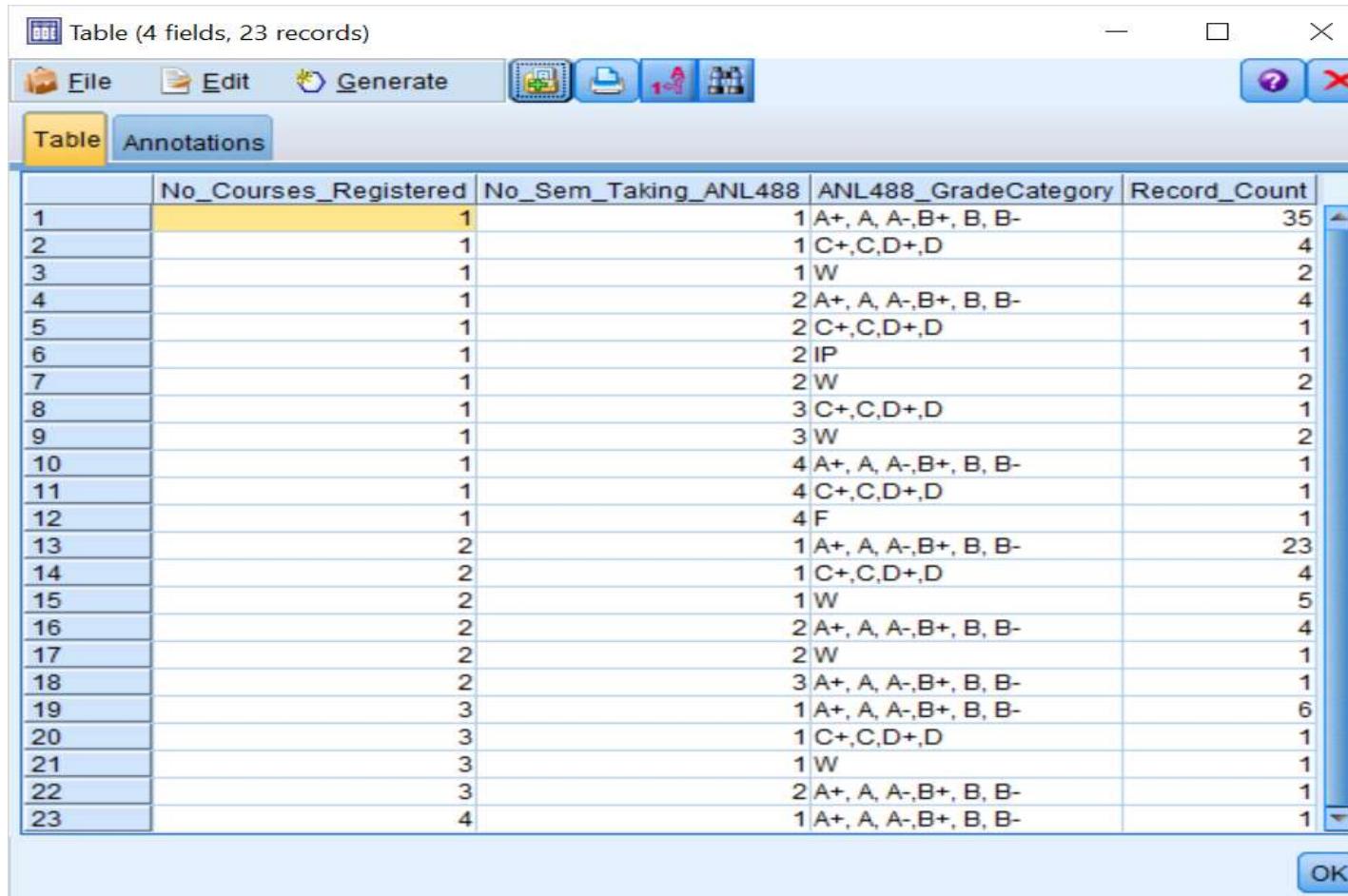
- No more than 10,000 words (40 pages at 250 words per page); exclude References and Appendices.
- Double-spaced
- Times New Roman font at 12 cpi
- Include all references and sources
- Indicate the total number of words written in (brackets) at the bottom of the last paragraph of the last chapter, but before the References
- Paragraphs justified (format)
- Number each page, table and figure
- APA referencing style (refer to ANL311/312 iSG)

Timelines

	Dates
Supervisor/Topic Assignment	6 Jun 2023 (Listed Projects) 13 Jun 2023 (General)
1 st Seminar (Week 1):	12 Aug 2023 (Sat) 9 am to 11 am
Proposal (Week 4):	8 Sep 2023, 12 noon
Presentation (Week 9 & 10)	2 to 6 Oct 2023 (9am to 9pm) Make sure you are available, exact schedule TBC
Final Report Submission (Week 16):	6 Nov 2023, 12 noon

Some Stats

Table (4 fields, 23 records)



No_Courses_Registered	No_Sem_Taking_ANL488	ANL488_GradeCategory	Record_Count
1	1	1 A+, A, A-,B+, B, B-	35
2	1	1 C+,C,D+,D	4
3	1	1 W	2
4	1	2 A+, A, A-,B+, B, B-	4
5	1	2 C+,C,D+,D	1
6	1	2 IP	1
7	1	2 W	2
8	1	3 C+,C,D+,D	1
9	1	3 W	2
10	1	4 A+, A, A-,B+, B, B-	1
11	1	4 C+,C,D+,D	1
12	1	4 F	1
13	2	1 A+, A, A-,B+, B, B-	23
14	2	1 C+,C,D+,D	4
15	2	1 W	5
16	2	2 A+, A, A-,B+, B, B-	4
17	2	2 W	1
18	2	3 A+, A, A-,B+, B, B-	1
19	3	1 A+, A, A-,B+, B, B-	6
20	3	1 C+,C,D+,D	1
21	3	1 W	1
22	3	2 A+, A, A-,B+, B, B-	1
23	4	1 A+, A, A-,B+, B, B-	1

Tip: Do not overburden yourself with too many modules.

Some Stats

Jan 2023 semester

Number of students in 2nd or more sems = 18

Number of students who finished ANL488 = 15 (83%)

Number of students who did not finish ANL488 = 3 (17%)

Number of First Attempt students = 50

Number of students who failed/withdrew Proposal = 5 (10%)

Number of students who finished ANL488 = 37 (74%)

Number of students who in 2nd or more sems= 8 (16%)

Using Data from Data Sponsors

Data Sponsors

- Business Analytics students with prior working experience
 - Client-stipulated business objective
 - Apply business analytics techniques to existing data
 - Report previously unknown patterns of data to solve business problem
- Project supervision by SUSS full-time or Associate faculty
- Project duration of about 4 months
 - Aug 2023 to Nov 2023 (Final Presentation to Data Sponsors after Exam period)
- Deliverables
 - Problem Identification
 - Project Methodology
 - Project Proposal Writing
 - Project Planning & Establishing Milestones
 - Analysis and Recommendations
 - Project Report Writing
 - Project Presentation

Benefits

- Project Resources
 - Experienced team of project supervisors to guide the Business Analytics project efforts
 - Student resource to undertake the entire project scope from data preparation to modeling and reporting
 - Student using enterprise-grade analytical tools
- Structured Methodology
 - CRISP-DM; data mining methodology that students will follow and systematically work through to meet the stipulated business objective
 - Structured Mechanics
 - Reporting Protocol
 - Data Security Measures
 - Non-Disclosure Agreement
 - Masked Data

Role of Participating Companies

- Commitment
- Assigned a Liaison Personnel
- Provision of Business Objective
- Facilitate in Business & Data Understanding
- Supply of Data
- Assist in Data Preparation
- Meeting Attendance
- Clear Expectations of Student's Capability & Project Deliverables
- Agreement for Student to Work Remotely on the Project

Critical Milestones

By **31 Jul 2023**

Meeting A

- Defining Project Objectives & Scope
- Reporting Protocol
- Exploratory Discussion of Data
- Administrative Matters (e.g. NDA)
- Release of Data to Student

By **31 Aug 2023**

Meeting B

- Presentation by Assigned Student
 - Project Proposal
 - Project Milestones

By **30 Sep 2023**

Meeting C

- Project Review 1
 - Business Understanding
 - Data Understanding
 - Data Preparation
 - 1st Round of Modeling & Findings

Critical Milestones

By 31 Oct 2023

Meeting D

- Project Review 2
 - Modeling
 - Evaluation
 - Recommendations for Deployment

As data mining process is dynamic & cyclical, discussion on the earlier stages may be required.

By 30 Nov 2023

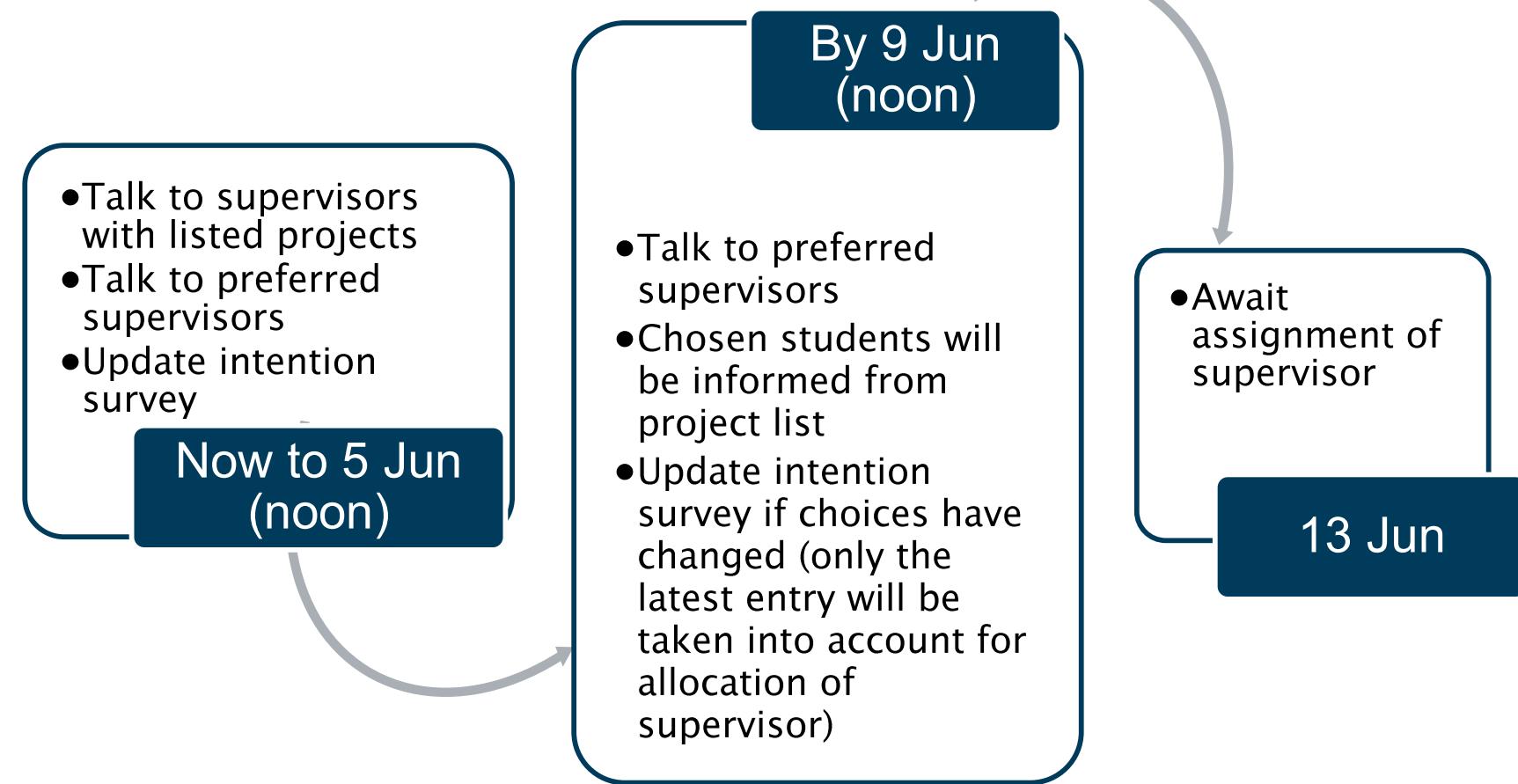
Meeting E

- Final Presentation

Timelines

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Proposal Presentation to Data Sponsor	By 6 Sep 2023
Presentation (Week 9 & 10)	2 to 6 Oct 2023 (9am to 9pm) Make sure you are available, exact schedule TBC
Final Report Submission (Week 16):	6 Nov 2023, 12 noon
Final Presentation to Data Sponsor	After Exam Period

Timeline



Note: If you are not registered for ANL488 in Jul 2023, please send email to jesstanwc@suss.edu.sg to get briefing slides, project list, zoom link for this briefing and other material. Otherwise, there is no way to reach you till the paid-up list for Jul 2023 is finalised.

Using Data from Company

Data From Company

- Company's data is best analysed by its own staff
- No concern of transmitting (or revealing) data to external party
- Analysis can be carried out within the company
- The student (also the staff) knows the business context (hence more productive)
- Company contributes to society by allowing for SUSS students to work on an industry-relevant projects
- The project will be guided by supervisors who have real-world analytics experience

Benefits

Students (staff in the company) will be in a better position to provide the benefits.

Possible Benefits:

- Help shape customer behaviours
- Improve profit by increasing response rate
- Put in place fraud detection technology that leads to fraud deterrence
- Leads to a better understanding of customer requirements
- Identify key issues faced by customers

Data

Potential data sources from the Company:

- Customer call log
- Customer sales transaction data
- Customer records
- Machine instrumentation data
- Factory production data

Safeguarding of the Data

- Use less sensitive data if needed, e.g., Queuing data
- Dedicated student will work on the data, generate the models and report the results to the supervisor
- Assigned supervisor does not need a copy of the data
- Mocked data that contain fictitious data can be used for the purpose of project discussion
- Not a need to submit the actual dataset as part of the project submission
- Final report will be read by your supervisor, second marker, and may sometimes be read by external examiners, who are all academics
- Final report can also be embargoed so that no members of the public can access the report



Supervisors Profile

Full-Time Faculty : Dr Carmen Lee

Email: carmenleekh@suss.edu.sg



Research Areas:

- Data Mining: Association, Clustering, Classification
- Text Mining: Topic modelling, Sentiment analysis

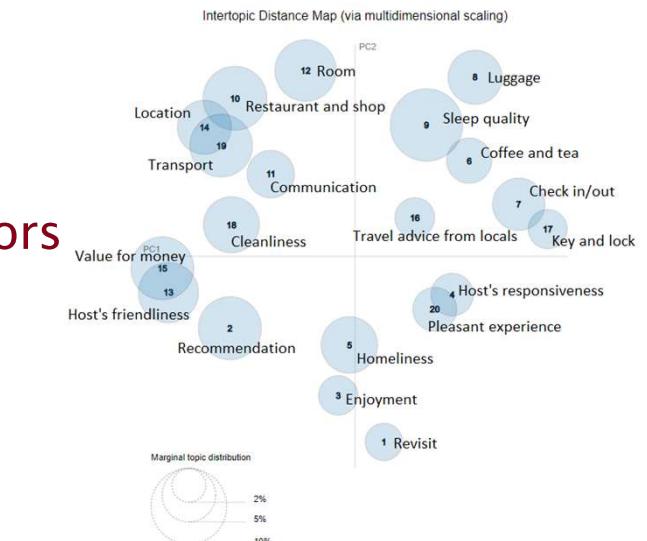
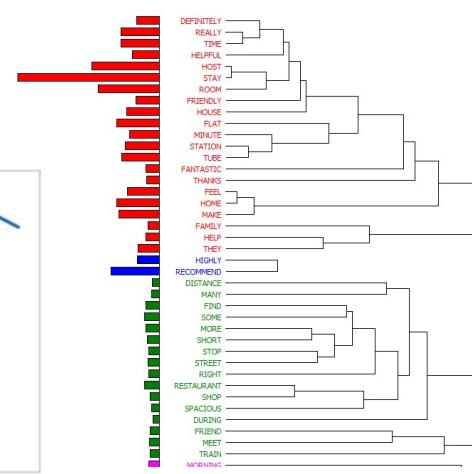
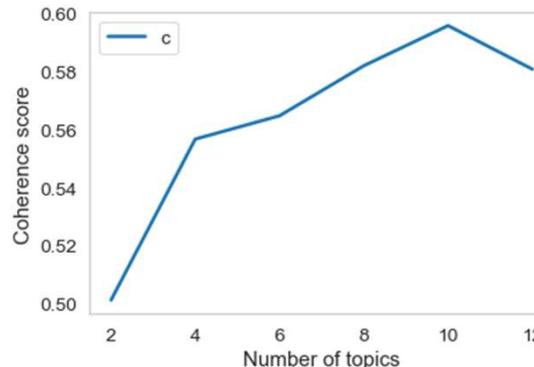
Research Projects/Initiatives:

- Application of data mining in manufacturing/service sectors
- Analysing user-generated content such as online reviews
- Social media analytics

Conversant in IBM SPSS Modeler, and Python programming.

Teach/Taught ANL303 and ANL305.

Available on Wednesdays or by appointment.



Full-Time Faculty : A/P James Tan

Email: jamestansc@suss.edu.sg

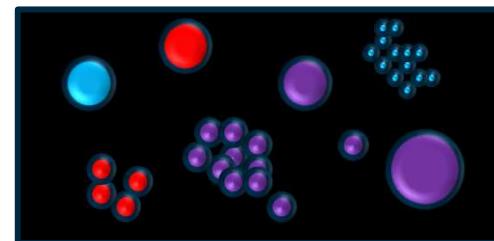
Research Areas:

- Business Analytics – Data Mining

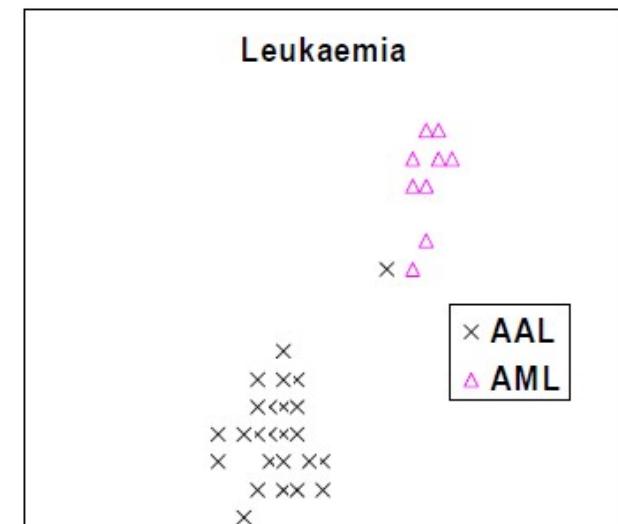


Research Projects/Initiatives:

- Applications of data mining
- Data Visualisation
- Data Stream Mining for Anomaly Detection
(Research with collaborators from CSIRO, Australia)
- Fast Anomaly Detection in Evolving Data Streams
(Funded by US Air Force of Scientific Research)
- Ensemble of Stable and Unstable Learners
(Funded by Monash University)



Conversant in IBM SPSS Modeller. Taught ANL303/305/307/311.



Full-Time Faculty : Dr Jess Tan

Email: jesstanwc@suss.edu.sg



Research Areas:

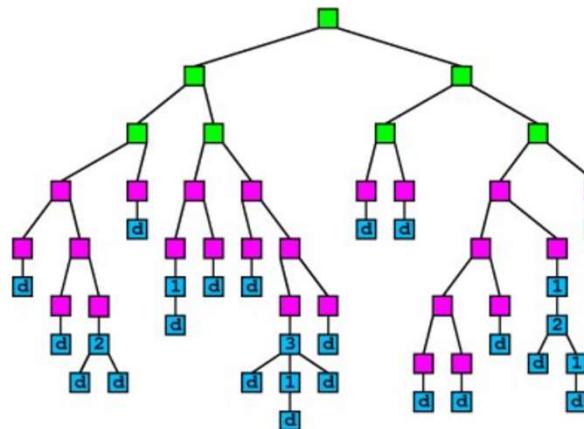
- Learning Analytics
- Business Analytics – Data Mining

Research Projects/Initiatives:

- Applications of Data Mining
- Analytics for Social Good
- Learning Analytics
- Data Visualisation
- Data Warehousing

Conversant in IBM SPSS Modeller, SAS Programming and SAS Enterprise Miner. Teach ANL310.

Available on Wednesday night or by appointment.



Full-Time Faculty : Dr Karl Wu

Email: karlwuky@suss.edu.sg



Research Areas:

- Statistics – Statistical Modelling, Generalised Linear Models, Joint Mean and Dispersion Effects Models and Time Series Analysis.

Research Projects/Initiatives:

- Application of joint mean and dispersion effects models in social science, medical and environmental studies.
- Application of time series analysis and generalized linear models in longitudinal medical and biological studies.
- Programming of R packages for statistical analysis.

Conversant in IBM SPSS, SAS and R.

Only meets on Wednesday night.

Full-Time Faculty : Dr Priyanka Gupta

Email: priyanka@suss.edu.sg



Research Areas:

- Empirical modelling, retail competition, spatial econometrics, digital marketing, customer satisfaction, survey data analysis

Research Projects/Initiatives:

- Retail price competition analysis in the carbonated soft drinks category
- Impact of automation in consumer products distribution operations
- Understanding the differences between customer satisfaction measures

Conversant in STATA, Matlab, R and SPSS.

Meeting- Wednesday 4:30PM – 6:30PM

Thursday 10:30AM – 12:30PM

Full-Time Faculty : Dr Ren Jing

Email: jingren@suss.edu.sg



Research Areas:

- Business Analytics – Data Mining, Text Mining
- Machine Learning, Recommendation
- Social Media

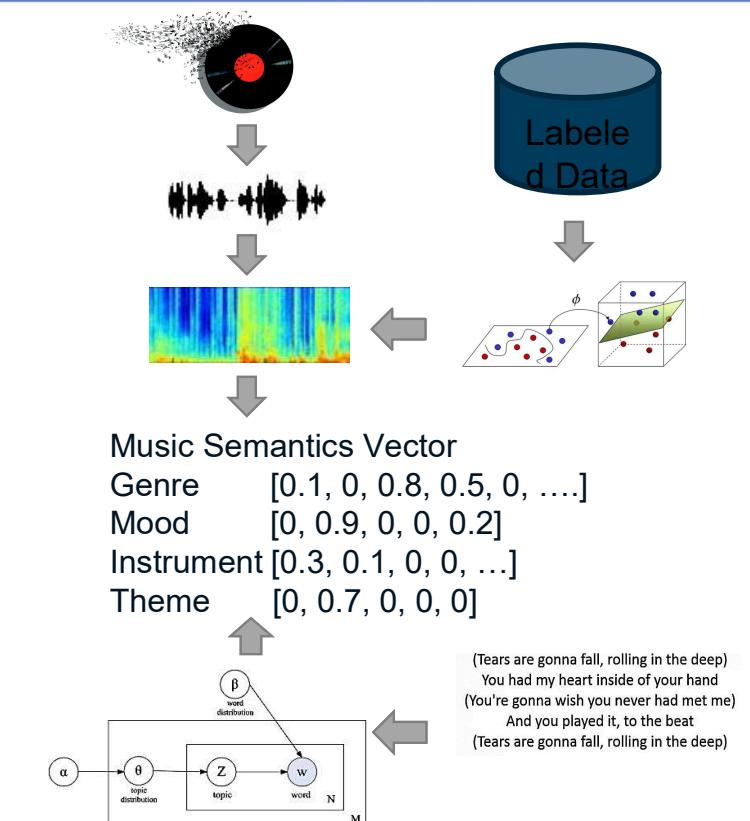
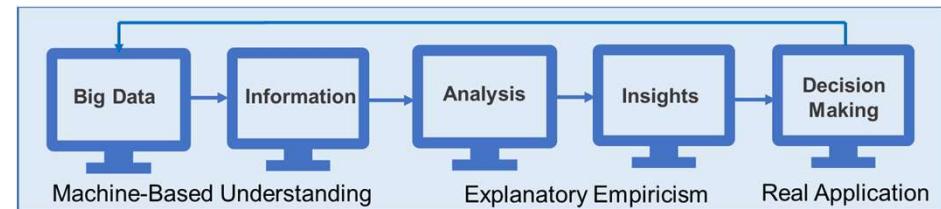
Research Projects/Initiatives:

- Combination of Machine Learning and Econometrics in Social Media Analysis and Recommendation
- Application of Data Mining and Text Mining in Customer Relationship Management

Conversant in machine learning and data analytics tools such as Weka, SAS, R, Teach ANL305/311.

Contact day/time: Monday 4:00 – 7:00 pm

Tuesday 4:00 – 6:00 pm



SUSS full-time faculty: Miss Jess Tan

Full-Time Faculty: Dr Wang Peng

Email: wangpeng@suss.edu.sg



Research Areas:

- Stochastic Modelling and Optimisation
- Resource Allocation and Workforce Management

Research Projects/Initiatives:

- Capacity Planning and Job Assignment Decisions
- Design of Assembly or Production Lines
- Optimisation on Queueing Networks

Conversant with Python, MATLAB, and R. Teach ANL203, MKT365 and MKT371.

Available on Wednesday night or by appointment.

Full-Time Faculty : Dr Zhang Meilin

Email: zhangmeilin@suss.edu.sg

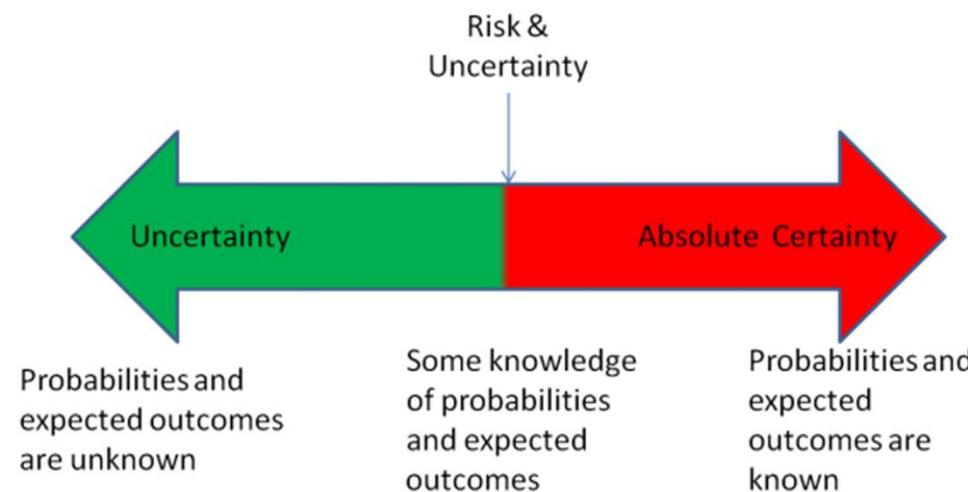


Research Areas:

- Decision Making under Uncertainty, Healthcare Analytics, Robust Optimization, Large Scale Computation
(Conversant in R, Python, Matlab, Cplex, Stata, SAS, MySQL, C++)

Research Projects/Initiatives:

- Adaptive Robust Linear Optimization (dynamic/multi-stage decision making)
- Robust Repositioning for Vehicle Sharing
- Patient Flow Control for Emergence Department (ED)/Frequent Returning ED patients
- Resource Allocation under Uncertainty (e.g., hospital wards, sharing vehicles)



Full-Time Faculty : Dr Zhang Yimiao

Email: yzhang@suss.edu.sg



Research Areas:

- Business Analytics – Data Mining and Text Mining
- Online Consumer Behavior
- User-generated Content

Research Projects:

- Attention in social media: Strategies to sustain users' attention
- Online reviews: Impacts on consumer perception changes and transaction failures
- Quantifying the value of online influencer endorsement on product sales

Relevant Tools:

IBM SPSS Modeller, IBM SPSS Statistics, Python

Taught ANL311

Normally only meet in the daytime by appointment

SUSS full-time faculty: Miss Jess Tan

Full-Time Faculty: Dr Zhu Siying

Email: siyingzhu@suss.edu.sg

Research Areas:

- Data Analytics
- Transportation Engineering

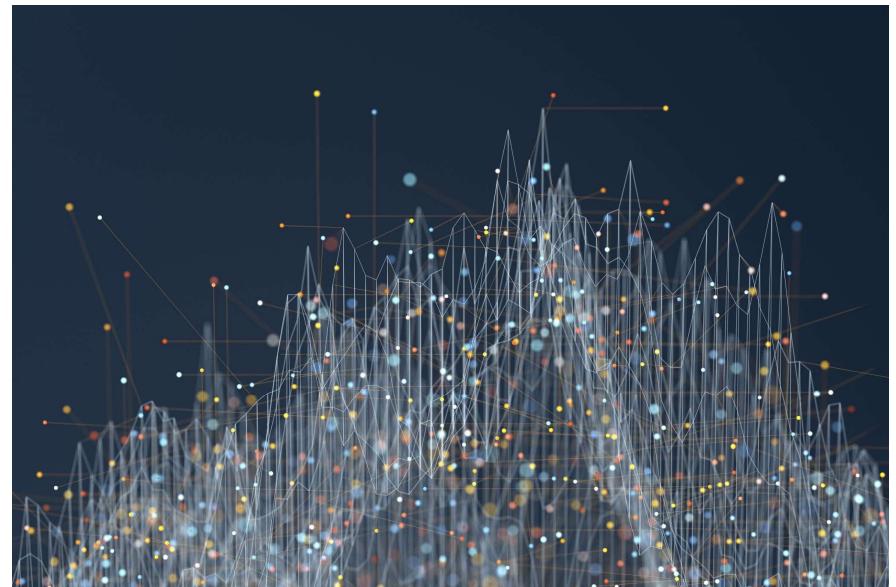


Research Projects/Initiatives:

- Machine Learning
- Statistical Methods
- Transportation Analytics

Python and R Programming. Teach ANL252.

Available on Friday afternoon or by appointment.



Associate: Mr. Adam Wong

Email: adamwong002@suss.edu.sg



Research Areas:

- Learning Analytics
- Business Analytics – Data Mining and Text Mining

Research Projects/Initiatives:

- Learning Analytics
- Data Visualisation
- Business Analytics – Data Mining and Text Mining

Conversant in IBM SPSS Modeler, R Programming. Teach ANL203, ANL303, ANL310

Available on Wednesday or by appointment.

Associate: Dr Alex Lum

Email: alexlum002@suss.edu.sg



Research Areas:

- Impact of Technology on Jobs and Skills
- Employment and Workforce Skills
- Regression Analysis and Forecasting

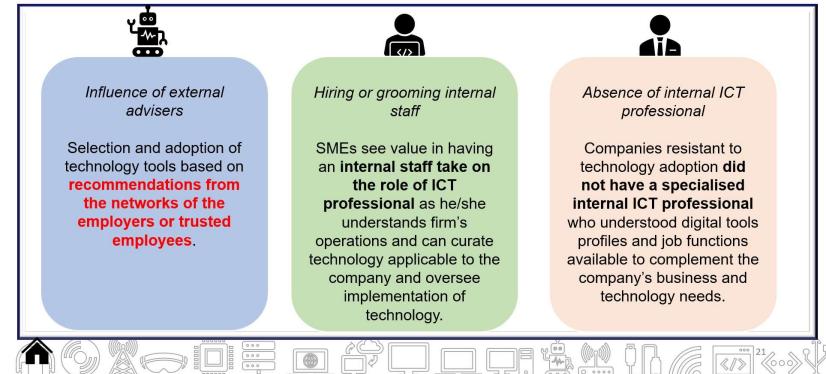
Research Projects/Initiatives:

- Employment and Workforce Skills in Transport and Transport-related Sectors
- Workers in Transition – analysing skills requirements in the Public Sector
- Impact of Technology Adoption in Small and Medium Enterprises

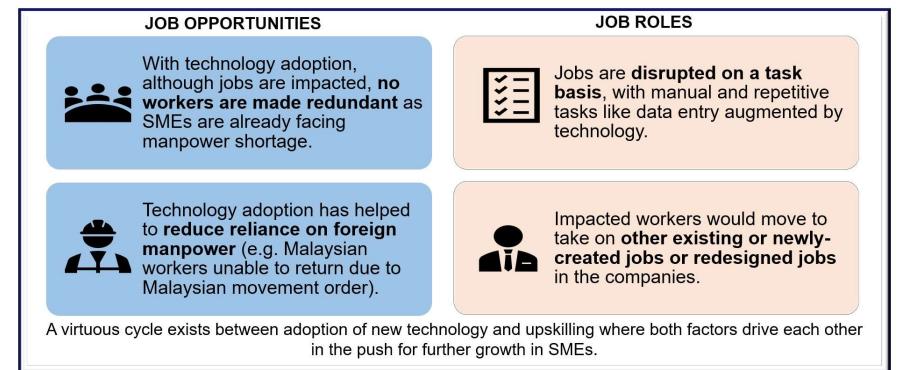
Conversant in IBM SPSS Modeller, Python and Tableau.

Only meets on Monday night.

ROLE OF CHANGE AGENTS IN TECHNOLOGY ADOPTION



JOB OPPORTUNITIES AND JOB ROLES AFTER TECHNOLOGY ADOPTION



Associate: Dr Benedict The

Email: BenedictThe001@suss.edu.sg

Head, Analytics & Business Intelligence, SATS Ltd.



Research Areas:

- Data Analytics & Business Intelligence
- Data Mining & Machine Learning
- Pattern Recognition & Digital Image Processing
- Behaviour Analysis & Cognitive Science



Research Projects/Initiatives:

- Share of voice & consumer sentiment in Social Media Analytics
- Intelligent Character Recognition & Extraction in Automated Forms Processing
- Eye Tracking & Discourse Analysis in Learning Analytics

Skilled in IBM SPSS Modeller, R, Python, Power BI and Tableau. Taught ANL303v

Able to meet for discussions on weekday evenings.

Associate: Dr Chris Ho

Email: jhho003@suss.edu.sg



Research Areas:

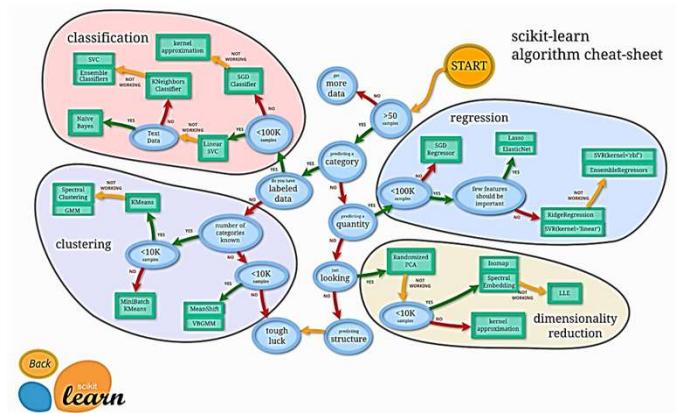
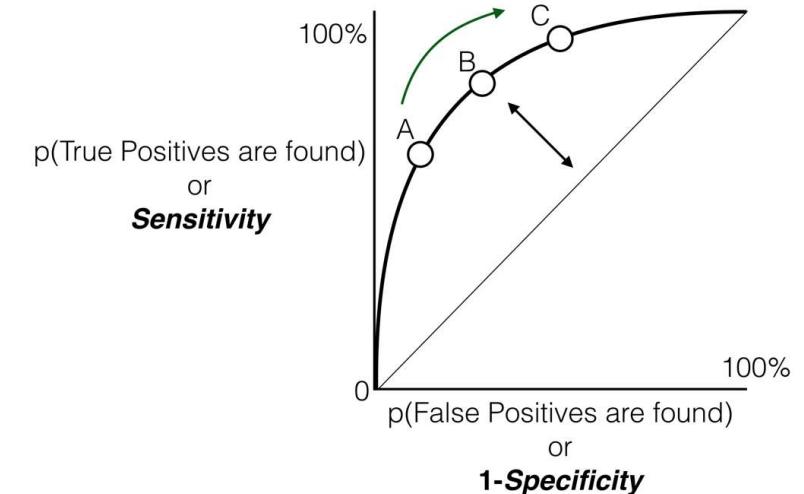
- Business analytics/statistics
- Data/text mining & processing
- Data visualization & reporting
- Machine learning/Artificial intelligence
- Association analysis/predictive modelling
- Entrepreneurship

Research Projects/Initiatives:

- Time-series prediction & analysis
- Product revenue
- Market pricing
- Stock movements
- Operations management
- Demand forecasting
- Process scheduling
- Resource optimization
- Sentiment analysis/Product recommendations, e.g. e-commerce, movies
- Entrepreneurship
- Value proposition/Product-market fit
- Market research & segmentation
- Go-to-market strategy/Stakeholder analysis
- Business model & plan/Pitch deck

Conversant in Python, R, MATLAB, Tableau. Taught ANL201/ANL251

Only meets on Mon to Sat mornings.



Associate: Mr Chua Poh Chai

Email: pcchua02@suss.edu.sg

LinkedIn: <https://www.linkedin.com/in/pohchaichua/>



Research Areas:

- Financial Analytics – Portfolio Analytics, Credit Risk Analytics, Stress Testing and Scenario Analysis
- Text mining and Sentiment Analysis

Research Projects/Initiatives:

- Early Warning Systems
- Credit Risk Assessment
- Sentiment Analysis
- Network Relationship Effects/ Knowledge Graphs

Skilled in Python and IBM SPSS Modeler.

Able to meet by appointments.

SUSS full-time faculty: Miss Jess Tan Associate: Dr. Yinghan Deng

Email: yhdeng001@suss.edu.sg



Research Areas:

- Mathematical simulation and optimisation
- Casual inference
- Business analytics

Research Projects/Initiatives:

- Analytics for digital marketing
- Experiment design for consumer research

Conversant in SQL, Python, Looker, ETL. Teach BUS105_v statistics.

Available on Sunday morning by appointment.

Associate: Eddie Sim

Email: eddiesim002@suss.edu.sg



Research Areas/Interests:

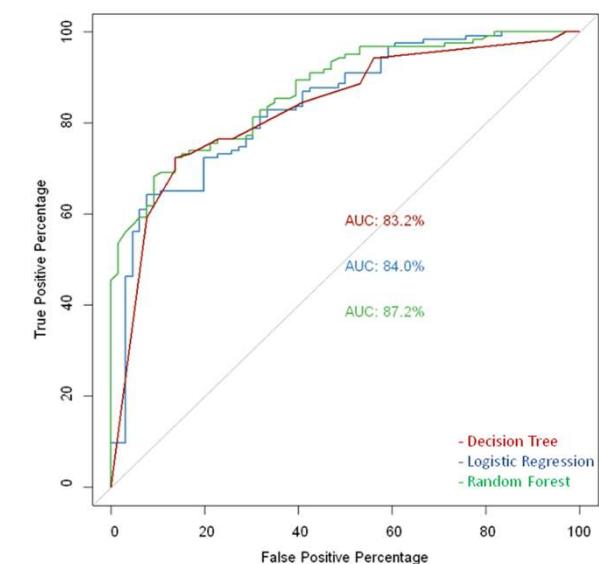
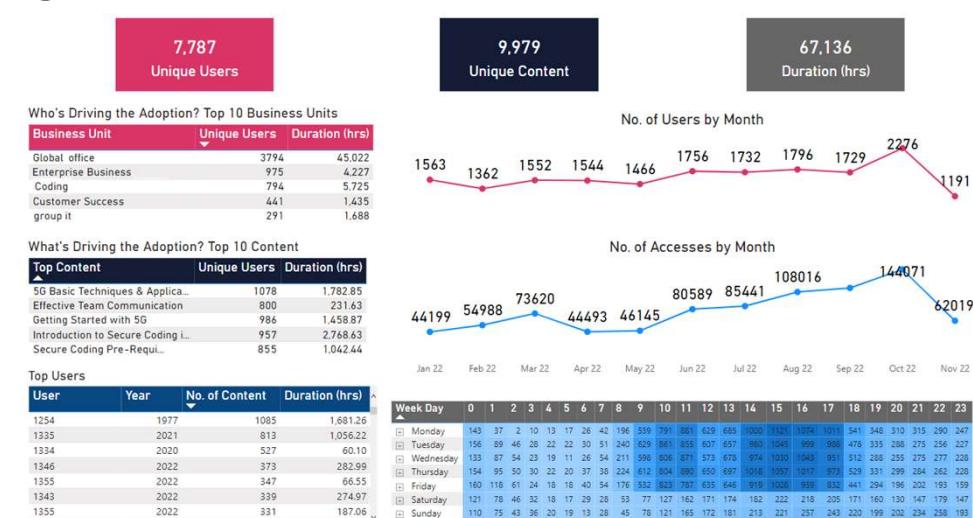
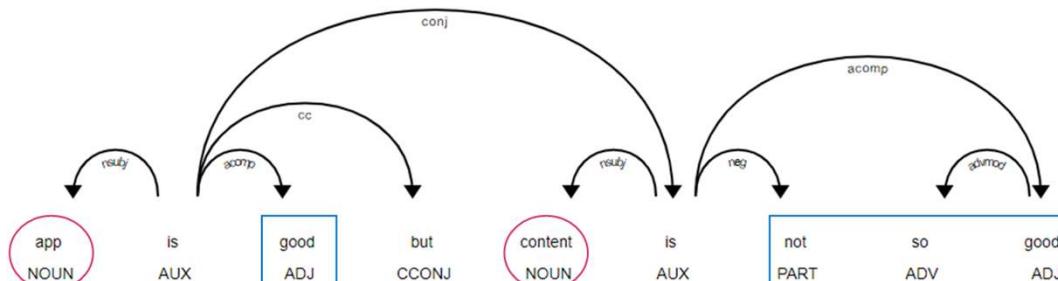
- Data Visualization, Data Mining, Text Mining
- Deep Learning, Artificial Intelligence
- GANs, Diffusion Models

Research Projects/Initiatives:

- Recommender Systems
- Campaign Analytics
- Aspect Based Sentiment Analysis

Conversant in Python and R. Teaches ANL312.

Available on weekday evenings by appointment.



Associate Faculty: Clement Tan

Email: clementtan005@suss.edu.sg

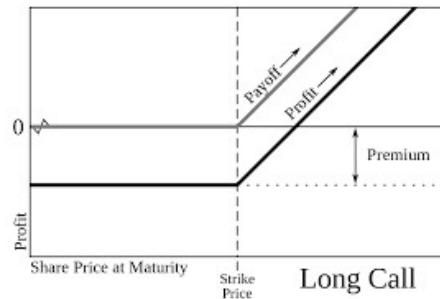


Specialities:

- Derivatives Pricing and Structuring
- Quantitative Research
- Risk Analytics

Projects/Initiatives:

- Quantitative Trading
- Commodities Risk Modelling
- Market Microstructure



Conversant in Python, R and SQL. Teaches ANL201, ANL252.

Available on Monday nights or by appointment



Associate: Dr Goh Shao Hung



Email: shgoh015@suss.edu.sg

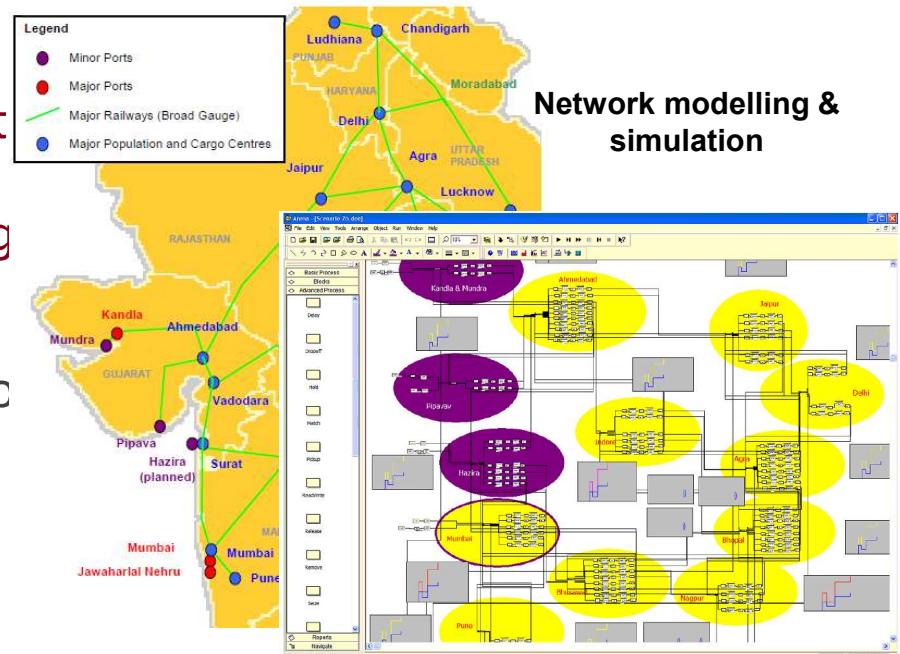
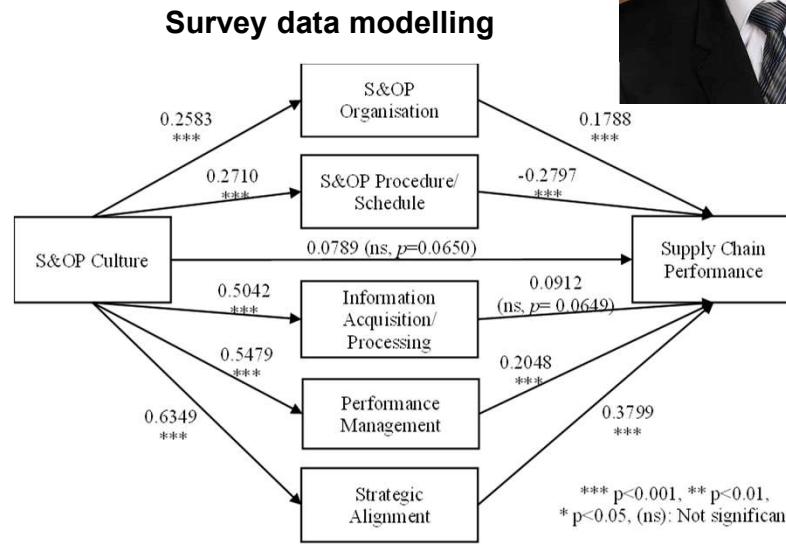
Research Areas:

- Optimisation
- Simulation
- Forecasting
- Statistical learning
- Survey design & analysis

Research Projects/Initiatives:

- Network optimization and revenue management in container shipping
- Text mining and thematic analysis in contract manufacturing industry
- Large-scale survey design and data modelling in sales & operations planning (S&OP)

Taught Applied Operations Research, Analytics for Decision-Making, Operations Management



Associate: Dr How Meng-Leong

Email: shawnhow001@suss.edu.sg



Research Areas:

- Computational Predictive Modeling using System Dynamics (SD)
- 3D Agent-based Modeling (ABM)
- Business Process Modeling (BPM) of Digital Twins of Industries.

Research Projects/Initiatives:

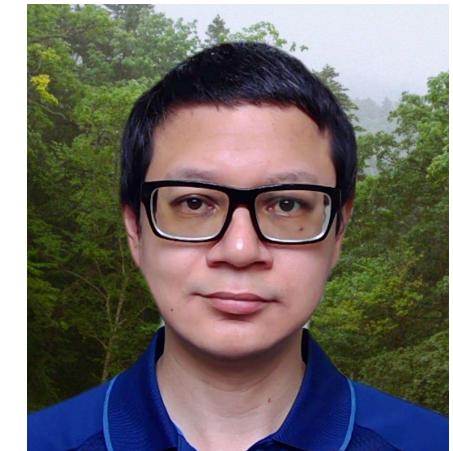
- Computational 3D Simulation for
 - healthcare business processes;
 - cargo and liquid transfer in industries like mining or oil & gas
 - rail transportation;
 - pedestrian flows in airports, stadiums, stations, or shopping malls;
 - car, truck, and bus movement on roads, parking lots, and factory sites; and
 - manufacturing and warehouse processes.

Skilled in Anylogic, Anylogistix, FlexSim & FlexSim Healthcare (the software programs for 3D computational simulations using System Dynamics (SD), Agent-based Modeling (ABM), and Business Process Modeling (BPM))



SUSS full-time faculty: Miss Jess Tan Associate: Mr Kelvin Foo Seck Kim

Email: kelvinfoo001@suss.edu.sg



Research Areas:

- Causal analysis methods
- Educational/institutional research
- Healthcare analytics

Research Projects/Initiatives:

- Various program evaluations conducted in public sector agencies
- Sports analytics (NBA)
- Analysis of Google Reviews on local F&B establishments

Conversant in R, SAS, Stata.

Teach/taught ANL317, ANL553, BUS105, BUS107. Supervisor for ANL588.

Available by appointment.

Associate: Mr Lam Vee Tat

Email: vtlam001@suss.edu.sg



Research Areas of Interest:

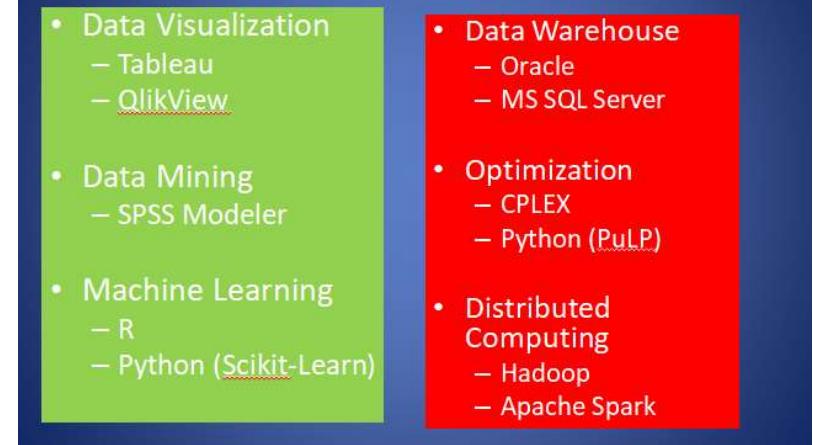
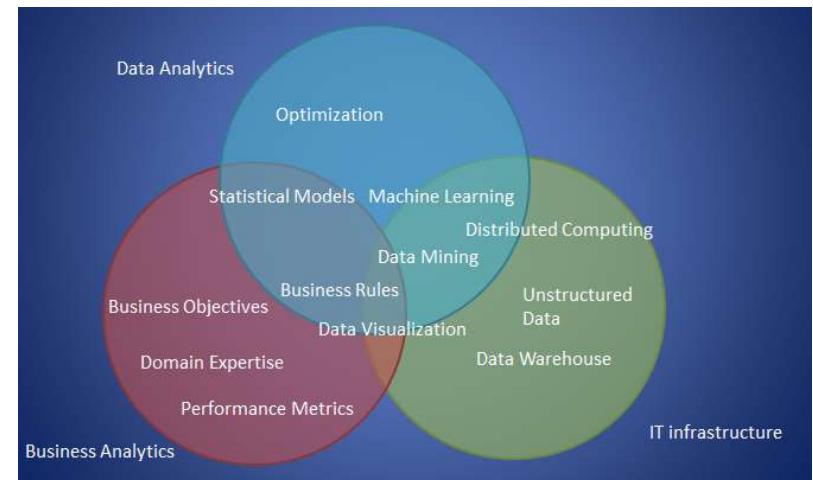
- Business Analytics – Data Mining, Visualization, Statistics
- Optimization, Machine Learning

Projects/Initiatives:

- Detection of Trading Misconduct for Equities Markets
- Regression Models for Energy Prices
- Application of Data Mining for Air Logistics
- Application of OR Techniques for Resource Allocation Problems

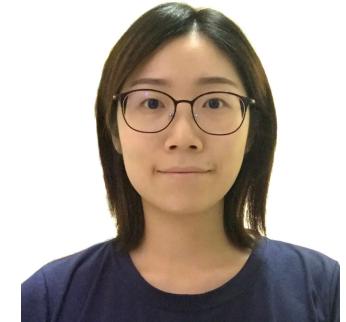
Experienced in Python, R, Tableau, QlikView, SPSS Modeler and VBA.

Meet on Mondays or Tuesdays.



Associate: Ms Li Jizhi

Email: jzli002@suss.edu.sg



Research Areas:

- Statistical analysis
- Data Mining (Cluster Analysis and predictive modelling)

Research Projects:

- Application of statistical analysis and Cluster Analysis on care-recipients of insurance agency
- Application of Data Mining in education sector/non-profit organization, profiling/prediction of student performance

Conversant in both IBM SPSS Modeller and R.

Taught ANL303/309.

Preferred meeting time is Mon to Thur evening.

Associate: Liew Sing Loon

Email: slliew001@suss.edu.sg

Research Areas:

- Management of Technology
- Decision Analysis



Research Projects/Initiatives:

- Applications of Data Mining
- Marketing Multivariate Analysis
- Project Management

Conversant in IBM SPSS Modeller, JMP, Tableau, MS Power BI

Teach ANL203, ANL303, ANL305, MKT355, BUS353, BUS363



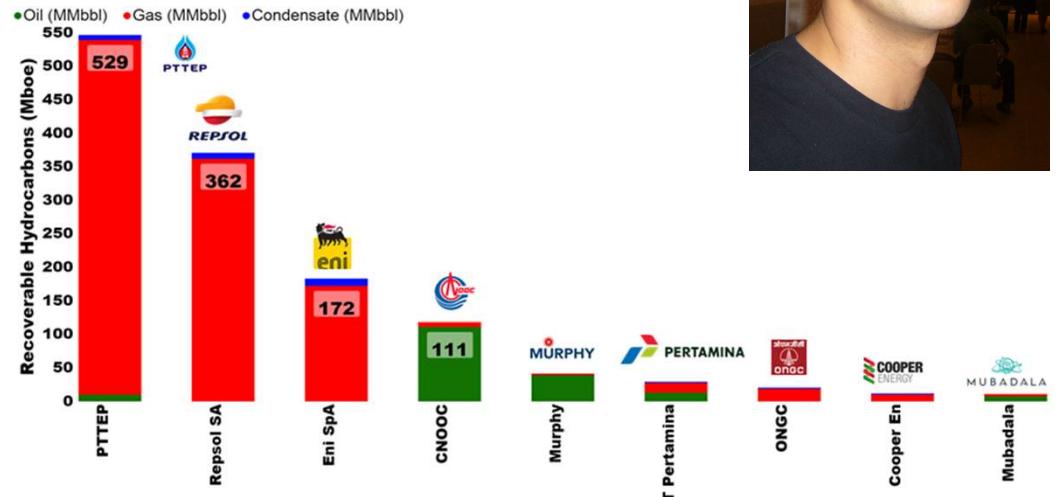
Available on Wednesday night or by appointment

Associate: Dr Munish Kumar

Email: munishkumar001@suss.edu.sg

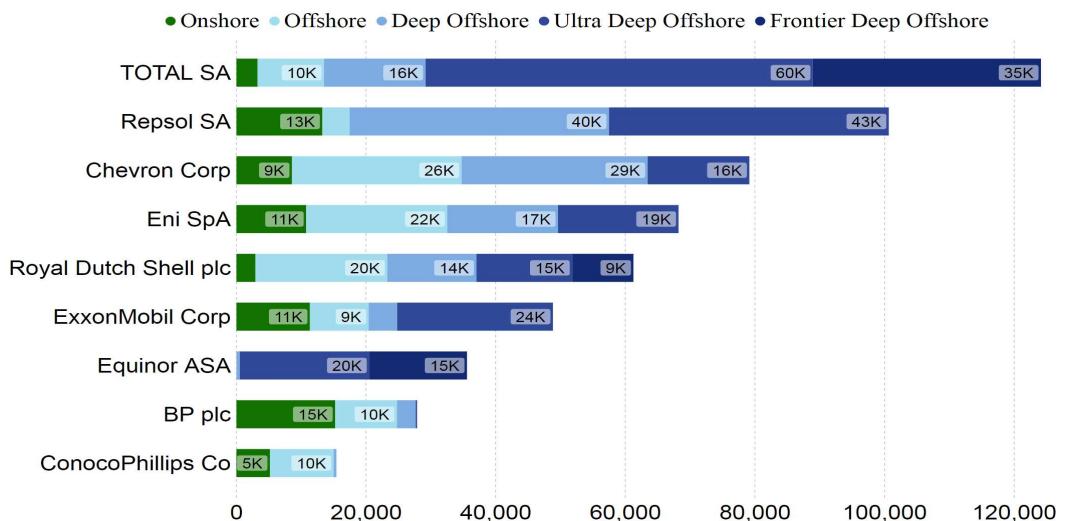


- Academic Qualification:
 - Ph.D. in Physics, Australian National University
- Research Interest/ Projects:
 - Application of Data and visualization in Oil and Gas, Energy, Renewables Sector



Conversant in Power BI & Python. Taught ANL201.

Only available on Monday night.



Associate: Mr Oh Chin Lock

Email: cloh001@suss.edu.sg



Research Areas:

- Business Analytics – Data Mining, AI, Deep Learning
- IoT – Edge AI, Smart Sensors, Cloud Computing

Research Projects/Initiatives:

- Application of Data Mining and AI in Healthcare and Medical/Clinical practice
- Application of AI and IoT in Healthcare, Enterprise Digitalization, Industry 4.0

Conversant in both IBM SPSS Modeller , SAS Studio, Python AI libraries.
Taught ANL303, 305, 307, 315.

Meets on Wednesday/Friday night.

<http://shining-ai.com>

Associate: Magnus Pang

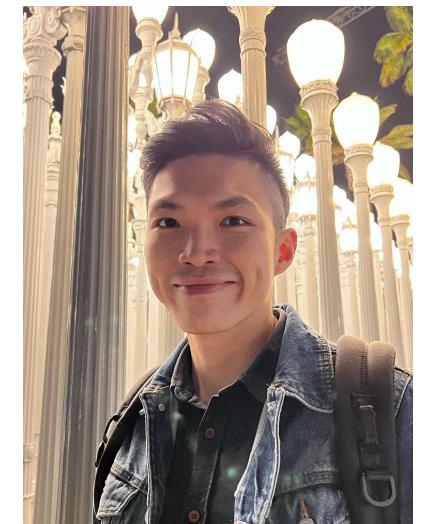
Email: magnuspang001@suss.edu.sg

Areas of interest:

- Retail analytics
- Media analytics
- Behavioral science
- Data visualization

Conversant in Python, KNIME, SPSS, Power BI.

Available by appointment (SG daytime) as I am currently in Eastern Time Zone.



Associate: Mr Paul Seah, CDMP

Email: paulseah002@suss.edu.sg



Specialised Areas:

- Business Analytics – Data Mining, Text Mining
 - Data Strategy and Data Governance

Applied Research Projects/Supervised Projects:

- Application of Data Mining in the Predicting Students' Academic Results
 - Supervised application of Text Mining in Customer Feedback Management

Conversant in IBM SPSS Modeller, Tableau, SAS 9.4 Data Management and SAS Viya.

Taught ANL203

Only meets on Monday night.



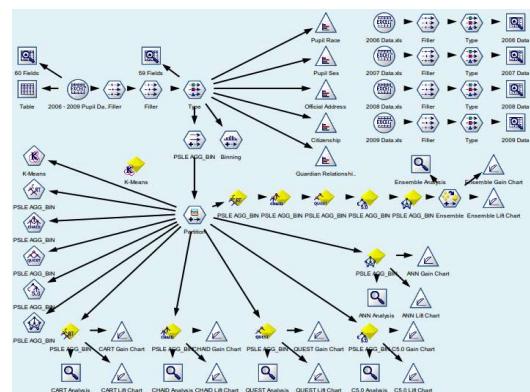
ANALYTICS EDUCATION FORUM 2011

Reach the Next Level of Insight with Data Mining and Text Analytics

The avalanche of public and customer feedback, and burgeoning data from the Web can be overwhelming for businesses. As a large proportion of data exists in unstructured form, many organizations are not equipped with the right tools and skills to capitalize on the rich trove of insights buried in textual, qualitative information. Ride on this new wave of Business Analytics by learning the various applications of data mining and text analytics across industries. Discover how to break down the barriers of unstructured data with text analytics and leverage predictive modeling to reach new level of insight for breakthrough results.

11.05am	Student Showcase Predicting Student Academic Performance with Data Mining Models by Mr. Paul Seah
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In the local educational system, academic performance plays a pivotal role in the student classification process and the pupils' promotion to the next academic level. However, the academic potential of students is affected by numerous factors apart from test and examination scores. This session will share on how data mining models can more accurately predict PSLSE aggregate by taking into account non-academic data including student demographics, co-curricular activities, community involvement and behavioral conducts. With greater accuracy in the prediction of academic performance, educators can better address students' learning needs to help them maximize their academic potential.



Associate: Mr Prasanna Rao

Email: prasannasr@suss.edu.sg



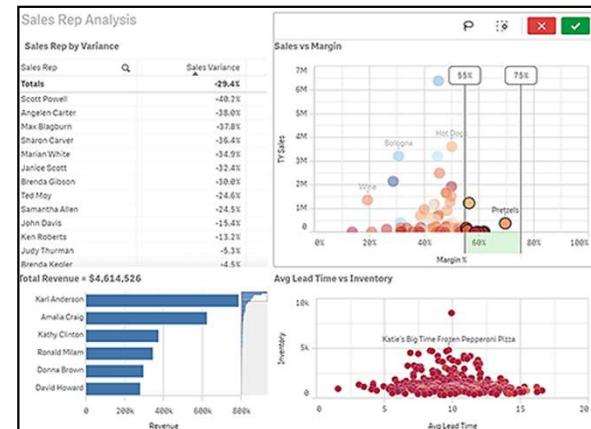
Project Areas:

- Business Analytics – Data Visualization, Dashboard Design and Data Mining

Projects/Initiatives:

- Data visualization and dashboard design for data analysis in various domains using Qlik Sense & Tableau
- Predictive modeling using IBM SPSS modeler
- Data pre-processing using Python

Data Viz & Dashboards

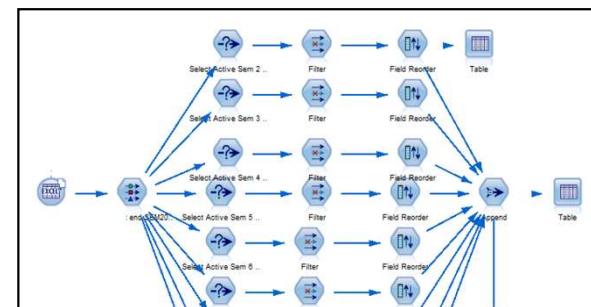


Certifications:

- Tableau Desktop Specialist, QlikView 11 Certified Designer, Data Scientist with Python (AI Singapore)

Only meets on Monday night.

Data Mining



Associate: Solomon Soh Zhe Hong

Email: zhsoh.2015@socsc.smu.edu.sg

Research Areas:

- Reinforcement Learning
- Time-Series Forecasting
- Discrete Optimization



Research Projects/Initiatives:

- Sales Forecasting and Optimization
- Graphical Neural Network in Causal Inference
- Segmentation via unsupervised algorithms

Conversant in Python, Power BI, Power Apps, GCP. Teach Python.

Available on Monday night or by appointment.

Associate: Dr Tan Khay Boon

Email: tankhayboon@sim.edu.sg



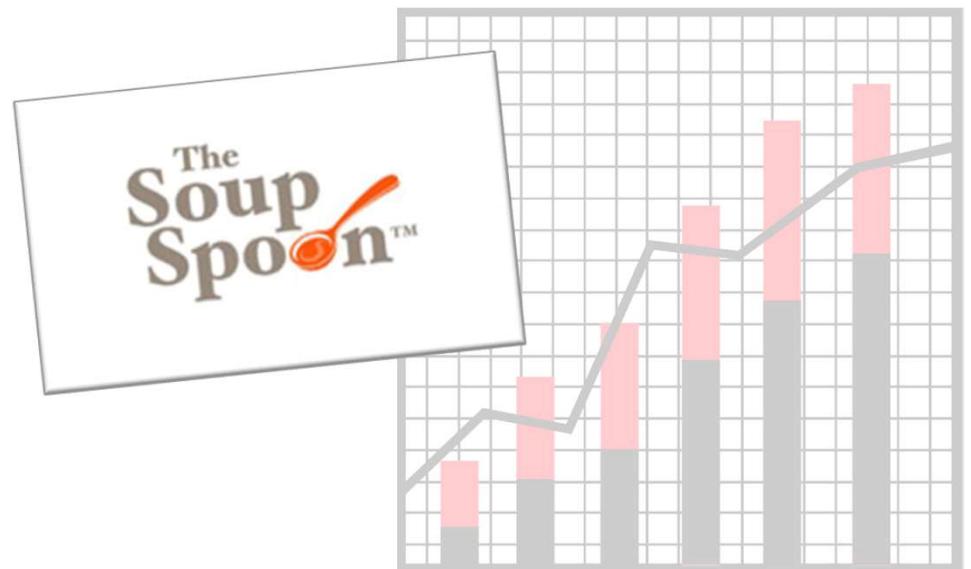
Research Area:

- Role of Financial Sector in Economic Development
- Causal Effect in Econometrics and Time Series Analysis
- Econometric Modelling
- Time Series Forecasting

Research Projects/Initiatives:

- Does Foreign Direct Investment Promote Economic Growth? A Time Series Approach
- Companies Case writing
- Forecast demand and wages

Taught ANL302



Associate: Ms Tang Yoke Wah

Email: ywtang001@suss.edu.sg



Project Areas:

- Business Analytics: Data Mining and Deployment with Data Visualization (Presentation/Dashboard/Reports)
- Data Mining: Statistical Analysis, Cluster Analysis, Predictive Modelling

Projects/Initiatives:

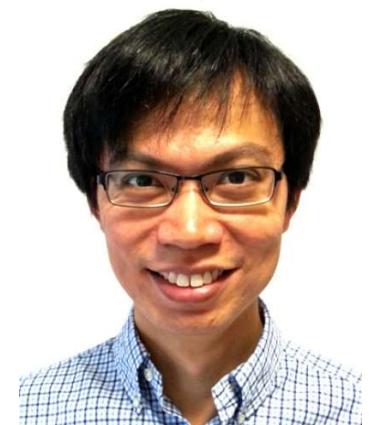
- Application of Data Mining in Education sector: Optimization of resources in a student intervention setting /Prediction of student performance
- Application of Data Mining in e-Commerce: Prediction of Sales
- Application of Data Mining in Marketing: RFM analysis, Customer Segmentation, Prediction of Customer Value

Conversant in IBM SPSS Modeller, Python and R.

Preferred meeting times on Wed-Thurs evenings (*tentative, may be adjusted*)

Associate: Dr Teh Yong Liang

Email: ylteh002@suss.edu.sg



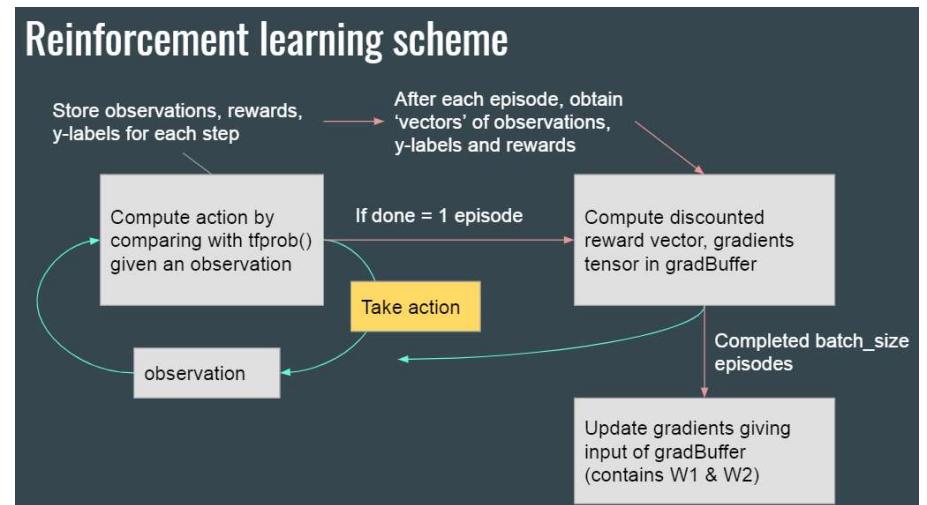
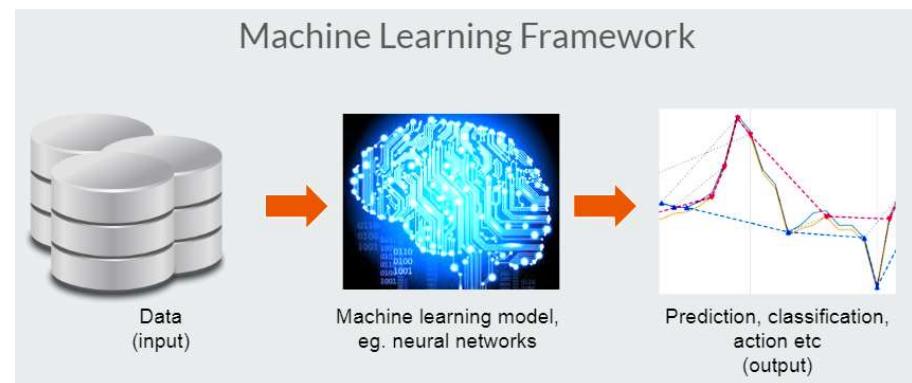
Research Areas:

- Business Analytics, Data Mining, Machine Learning, Mathematics

Research Projects/Initiatives:

- Application of Data Mining in Financial Analysis
- Application of Reinforcement Learning in Automated Trading of Financial Assets
- Application of Machine Learning in Automatic Detection of Illegal Smoking Behavior

Proficient in IBM SPSS Modeller and Python programming. Taught ANL251/303/307.



Associate: Dr Tung Whye Loon

Email: wltung001@suss.edu.sg

Director – Data, AI & Research (SP Digital) at SP Group



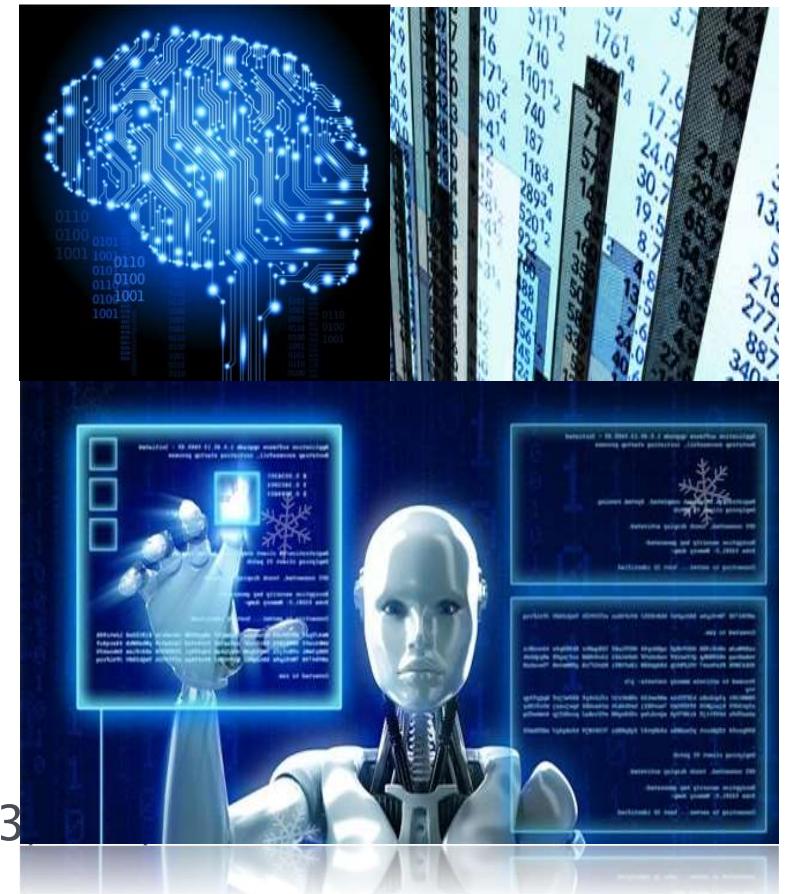
Research areas:

- Data Analytics, Machine Learning, Computational Intelligence & Computational Finance, Location Analytics, Anomaly Detection

Research Projects/Initiatives:

- Application of Data Analytics to Contextual Marketing/Recommender System
- Predictive portfolio optimization & trading systems
- Geo-location analytics, Churn/Attrition analytics

Conversant in Python, IBM SPSS Modeller. Taught ANL303



Associate: Mr Victor Yew

Email: victoryiew002@suss.edu.sg

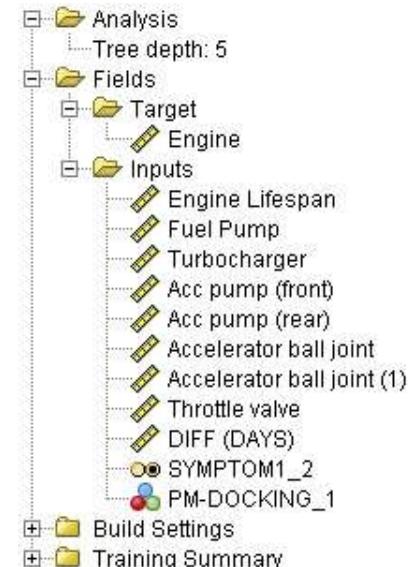


Special Interest on

- Business Analytics : Data Mining, Text Mining and CRISP-DM Framework
- Business Excellence : Lean Enterprise, Six Sigma, Statistics, Triz, BPM and Coaching
- Operational Excellence : Dashboard, Process Optimization, Productivity, Standardization

Research Projects/Initiatives:

- Prognostic Maintenance on Bus Engine System
- Optimization for Treasury Investment
- GrabFood Delivery Solutions:
Food Court Transformation Chronicle
- Smart Education: Service Innovation
- Application of Text Mining on Customer Relationship Management



Conversant in IBM SPSS Modeller, SPSS Statistics, Minitab, RStudio, Tableau Visualization
Lecture & Projects conducted for ANL201, ANL203, ANL305, ANL307, ANL312, ANL488

Associate: Mr Yao Renjie

Email: rjyao001@suss.edu.sg



Research Interests:

Interpretability of Artificial Intelligence

Area of expertise:

Big Data, Operation, Machine Learning

Current employment / industry:

Tech Lead, ViSenze

About myself:

I obtained my Bachelor in Huazhong University of Science and Technology, major in Mathematics and double degree in Computer Science. As a Tech Lead in ViSenze, I am leading multiple teams working on Big Data, Machine Learning Platform and Site Reliability Engineering to help company solve problems and mentor young engineers. I believe that help people learn how to learn is more important than knowledge. And we are learning within all our lifetime.

Associate: Ms Yeo May Peng

Email: mpyeo002@suss.edu.sg

Research Areas of Interest

- Business Analytics – Data Mining, Data Analytics and Data Visualisation



Projects/Initiatives:

- Application of Data Mining in the Financial Sector
- Application of Data Analytics in Performance Trend Analysis
- Application of Data Visualisation in Providing Business Insights

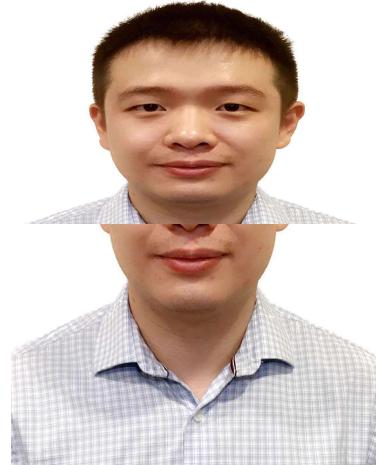
Conversant in Python and Tableau

Instructor teaching ANL201 Data Visualisation for Business

Meets on Tuesday or Friday night.

Associate: Mr Zhang Shuai

Email: sazhang001@suss.edu.sg



Business Focus:

- Digitalization pipeline development
- Business case study
- Analytics project management

Data Science Experience:

- Data processing & analytics – ETL, EDA
- Modelling – Machine learning, deep learning
- Business intelligence – Tableau, PowerBI

Technical Skills:



Programming



BI tools



Data query

Choosing Supervisor

- At least 1 whose area is aligned to what you want to do
- At least 1 associate and 1 Full-Time faculty
- Those supervisors who are less popular will be assigned first

Choosing Topic

- Develop Plan A (e.g., from project list), Plan B (your preferred 1-2 supervisors), Plan C (public data such as Kaggle, UCI), etc
- Avoid topics like “China market equity fund pricing model and forecast” or “What lead to the meteoric rise of Tesla stock?” or “Identifying unemployment trends and helping affected industries during the recession”
- Those using Kaggle data wholesale without modification – an average grade can be expected

Assignment of Supervisor

What you need to do after being assigned your supervisor?
(Taking ANL488 this coming semester)

- Show supervisor your ANL311/312 ECA for comments on how to improve
- Find an appropriate data set by 1st week of Aug 2023 semester
- Conduct a thorough literature review – 3 analytics references
- Improve on technical writing

List of Projects

List of Projects

ANL488 Project List for Jul 2023 Semester

Those interested in any of the projects, please email the respective supervisors with your CV by noon 5 Jun 2023 and cc'ed jesstanwc@suss.edu.sg.

No	Project Title	Supervisor	Description	Status
1	Modelling and Forecasting Time Series	Dr Karl Wu karlwuky@suss.edu.sg	<p>This project focuses on modelling and forecasting time series using preferably ARIMA models (or other techniques that we have learned in ANL317 Business Forecasting). We will conduct a complete time series analysis including examining the properties of the series such as stationarity, seasonality, the periodogram (ACF and PACF), the goodness of fit of the estimated ARIMA models as well as the residuals. Eventually, we will try to obtain a reliable prediction of the future outcomes of the series. If we discover volatility in the time series, we may also try to implement some more challenging models such as the GARCH/ARCH as a complementary element to the conventional ARIMA approach.</p> <p>The time series we are going to work with should be univariate, meaning that it will be a series of a single variable. The series can be either from the fields of social science (e.g. studies on education, observations of political issues), economics (e.g. consumer price index), finance (e.g. stock prices), medicine (e.g. epidemic study) etc. You are also most welcome to suggest a certain field or topic where we can find time series for forecasting. We will be using either SAS Forecast Studio and/or R for this project.</p>	No Change
2	Advanced analytics to assess Corporate Risk and predict default	Mr Chua Poh Chai pcchua002@suss.edu.sg	<p>Traditional Corporate Risk models are too slow to respond to the changing business environment. By the time, the distress corporates are identified and downgraded, they are almost in default. This results in substantial credit losses for the banks and financial institutions.</p> <p>This project aims to develop advanced analytical models which are more responsive to market conditions and can predict distress/default in a more-timely manner so that banks and financial institutions can respond much earlier and reduce credit losses.</p> <p>This project will investigate various machine learning techniques, including deep learning, to build predictive corporate risk models. More importantly, it will break down the predictive model metrics into intelligible terms which practitioners can understand so as to achieve buy-in and deployment in banks and financial institutions.</p> <p>With reference to the Monetary Authority of Singapore (MAS) Financial Stability Review (FSR) 2018, P73-77, data can be obtained from providers like Bloomberg and Refinitiv (for publicly traded companies), Accounting and Corporate Regulatory Authority of Singapore (ACRA) and Ministry of Law.</p> <p>As this project focuses on financial analytics, students' knowledge in finance, statistics and machine learning, together with strong Python/R programming, will be helpful.</p>	No Change

The list will be sent to students who had filled in the intention survey and/or register for ANL488 in Jul 2023.

List of Projects

- If you are interested in the listed project, pls email the supervisor in charge along with your CV as well as a short paragraph of why you are interested in that project.
- Based on the information received, the supervisor will select the appropriate student.
- The closing timeline to indicate your interest for the listed projects to the supervisor in charge is 5 Jun 2023 12noon.

List of Projects

Renewable Energy Focus 42 (2022) 211–220

Contents lists available at ScienceDirect

Renewable Energy Focus

journal homepage: www.elsevier.com/locate/ref

ELSEVIER

Using text mining and topic modelling to understand success and growth factors in Global Renewable Energy projects

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^aSingapore University of Social Sciences, School of Business, 463 Clementi Rd, 599494, Singapore
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Non-Financial Factors
Financial Factors
Holistic factors

ABSTRACT

Renewable energy (solar, wind, geothermal and hydrogen) are means by which corporations and government hope to mitigate the effect of climate change. However, literature is rife with examples of renewable energy projects not being able to deliver as promised, with difficulties like energy transportation, energy output and subpar financial outcomes. Yet, the sector has experienced exponential growth in recent years, with new projects being continually sanctioned. This paper aims to utilize the method of text mining and topic modeling to probe why this growth occurs. Additionally, we will use these data analytic methods to rank, understand, and discuss contributing factors to this growth, by analysing a collection of 100 peer reviewed scientific articles which specifically discuss "renewable energy project success". The papers selected encompass policy, economics, technology and engineering. Our results indicated that "softer" non-financial factors were more prevalent growth factors, but that financial considerations were not far behind.

One-Sentence Summary: This paper aims to determine and rank success and growth factors in renewable energy projects worldwide.

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Student' ANL488
project is
published in a
journal along with
her supervisor!



Questions???

