



MASTER OF SCIENCE **BUSINESS ANALYTICS**

Solving tomorrow's challenges with today's data insights



Unique Curriculum

designed by NUS Business School
and NUS Computing

Collaborative Industrial Partnerships

forming valuable partnerships with
more than 60 organisations

Diverse Community

from 17 countries across
7 different regions

NUS Business Analytics Centre

SUPPORTED BY NUS BUSINESS SCHOOL & NUS COMPUTING

DID YOU KNOW...



Data Science and Analytics job openings are projected to **increase by 28% in 2020.**

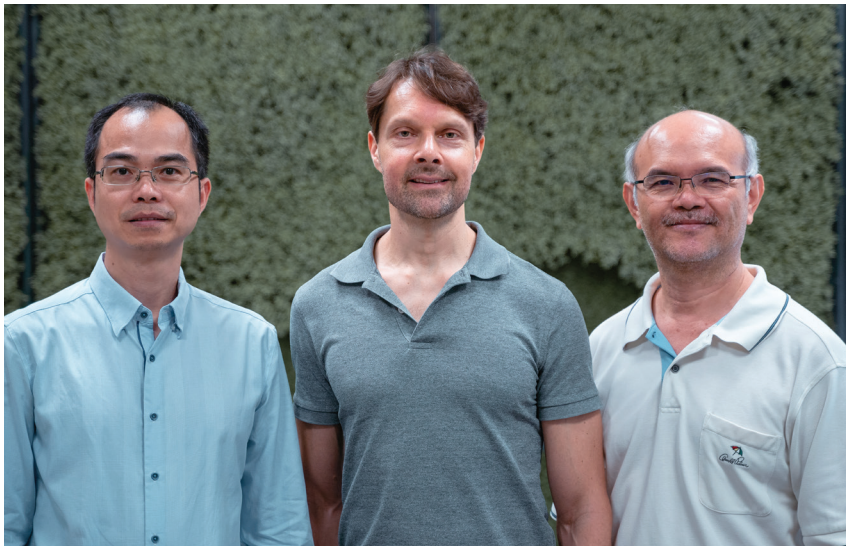


81% of these jobs require **at least 3 years of working experience.**



39% of them require a **Masters' or PhD.**

* According to the "The Quant Crunch: How the Demand for Data Science Skills is Disrupting the Job Market", jointly published by IBM, BHEF and Burning Glass Technologies in 2017.



With the exponential growth of data, it is important that organisations leverage on data analytics to find new business opportunities and insights, and stay ahead in their respective industries. The MSBA programme equips future leaders with valuable skills seeking to transform their industry and the society.

Professors James Pang, Jussi Keppo, Khoo Siau Cheng (Left to Right)
Co-Directors of NUS Business Analytics Centre

ABOUT MSBA

The Master of Science in Business Analytics (MSBA) is a programme offered by the NUS Business Analytics Centre (BAC). It is designed and taught by award-winning academics from NUS Business School and NUS Computing.

Offered as a full-time (1-year) or part-time (2-year) programme, NUS MSBA is designed to facilitate experiential learning, through a balance of intellectual academic rigour and hands-on applications. NUS MSBA students will be well-equipped with skills such as machine learning to excel in the data-analytics field across various industries such as finance, retail, information technology, supply chain, and healthcare.

The programme boasts a strong network of industry partners that NUS MSBA students can interact with and learn from, to enhance their career prospects and competencies in the field.

Upon completion of the programme, NUS MSBA graduates will be able to use relevant data-driven techniques and tools to understand and resolve complex business analytics problems, a skill highly sought after across different industries and environments, both locally and internationally.

NUS BAC

In 2013, NUS BAC was established in collaboration with IBM to develop a talent pool of business analytics professionals to meet the needs of companies looking to improve their businesses through the use of analytics. In a 5-year collaboration that ensued, NUS offered academic expertise to design, craft and conduct the MSBA programme while IBM contributed industrial knowledge.


Global interest in the field of analytics has since grown tremendously, with companies across various industries actively seeking for talent who excel in the analytics field. To date, 300 industrial analytics projects were completed by NUS MSBA students, with the school forming valuable partnerships with more than 60 organisations.




*ICube Building, 21 Heng Mui Keng Terrace,
#03-47, Singapore 119613*

CURRICULUM

Students must complete a total of 44 modular credits, which comprise of 8 modules (5 essential, 3 electives⁺) and 1 capstone. The MSBA capstone module will be a year-long module in the form of capstone classes, industry analytics seminars, and a 3 - 6 month full-time[^] capstone project.



1. Analytics in Managerial Economics
2. Data Management and Warehousing
3. Deterministic Operations Research
4. Foundation In Data Analytics I NEW
5. Foundation In Data Analytics II NEW



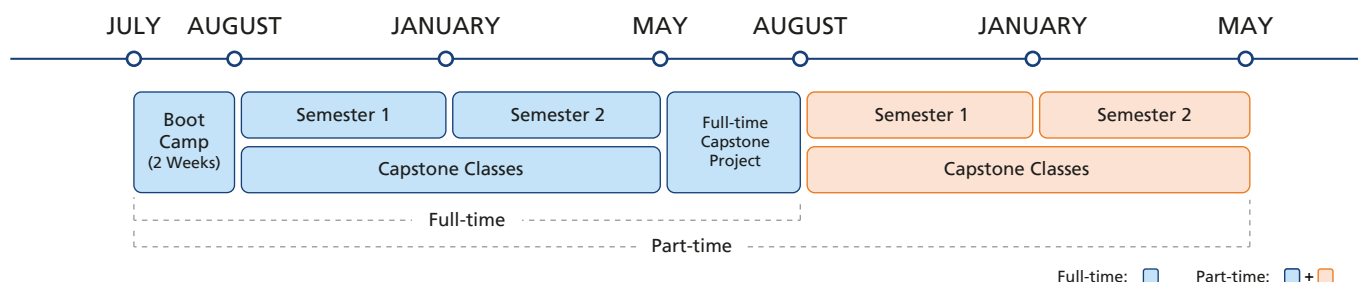
<p>Big Data Analytics Techniques</p> <ul style="list-style-type: none"> Big Data Analytics Technology Cloud Computing Neural Networks and Deep Learning <p>Healthcare Analytics</p> <ul style="list-style-type: none"> Economic Methods in Healthcare Technology Assessment Healthcare Analytics Information Technology in Healthcare 	<p>Consumer Data Analytics</p> <ul style="list-style-type: none"> Hands-on with Business Analytics (Consumer) Introduction to Network Science & Analytics Marketing Analysis <p>Statistic Modelling</p> <ul style="list-style-type: none"> Analysis of Time Series Data Categorical Data Analysis II Probability and Stochastic Processes Spatial Statistics Survival Analysis 	<p>Financial & Risk Analytics</p> <ul style="list-style-type: none"> Data Analytics in Banking Introduction to Network Science & Analytics Quantitative Risk Management
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Professional Consulting Capstone Project
(3 - 6 months)

⁺Students can select 3 modules from maximum 2 verticals. This list is not exhaustive and is subject to change.

[^]Part time students are recommended to do their capstone project with the company they are working for.

ACADEMIC TIMELINE



ADMISSION, APPLICATION & FEES

ADMISSION CRITERIA^{*}

- A good Bachelors' degree, preferably from Business, Computing, Economics, Engineering, Mathematics, Science or Statistics, with a good honours classification; or at least 2 years' relevant work experience
- A good quantitative score in GRE/GMAT for overseas degree-holders^{**}
- Strong Mathematics foundation

NUS GMAT Code

- For full-time applicants: NUS-MSBA, Full Time: DRT-FX-05
- For part-time applicants: NUS-MSBA, Part Time: DRT-FX-10

NUS GRE Code

- For full-time applicants: Code 3558
- For part-time applicants: Code 3638

^{*}All credentials will be weighted by the quality of applicants each year. Hence, there is no minimum cut-off for any component.

^{**}GRE/GMAT will be exempted if you graduate from either of the 4 local universities (NUS, NTU, SMU, SUTD)

Application Period^{#1} for AY2020/21 (August Intake)

Opens on: 14th Oct 2019, Monday
Closes on: 12th Jan 2020, Sunday

To apply, please submit an application via <https://msba.nus.edu.sg/apply-now/> or scan QR code:



Programme Fees ^{#2}	Amount
Tuition	Singaporean and PR: S\$45,000 ^{#3} International: S\$50,000 ^{#3} Students are required to make an upfront payment of S\$4,000 ^{#4} (incl. in tuition fees) upon acceptance into the programme.

^{#1}The application period is subject to change.

Visit www.msba.nus.edu.sg/programme/fees-scholarship/ for latest updates.

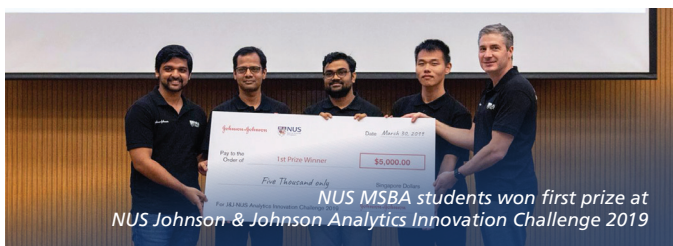
^{#2}The amount reflects the current fees for the programme. Once a student is admitted, the tuition fees are locked in. However, NUS reserves the right to alter tuition fees for incoming cohorts.

^{#3}The tuition fee is subject to 7% Goods and Services (GST) tax.

^{#4}S\$4,000 is non-refundable and non-transferable.

OUR STUDENTS

STUDENT ACHIEVEMENTS



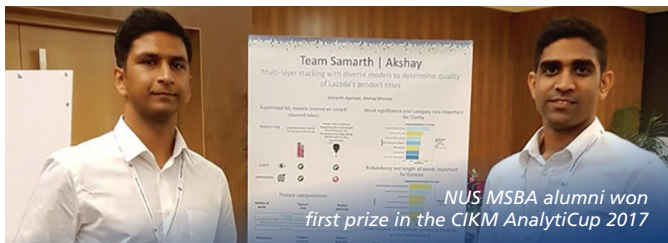
NUS MSBA students won first prize at NUS Johnson & Johnson Analytics Innovation Challenge 2019



NUS MSBA students won first prize at MKE Hackfest 2018



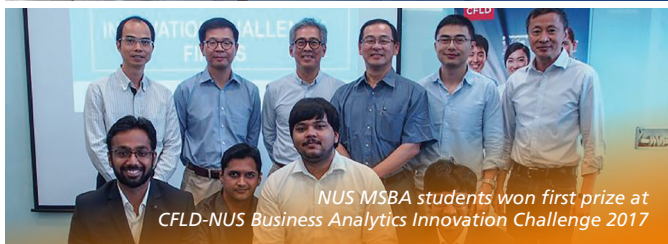
NUS MSBA students won first prize at Chengdu 80 Competition



NUS MSBA alumni won first prize in the CIKM AnalytiCup 2017



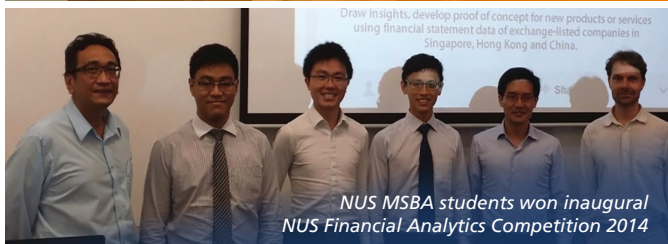
NUS MSBA alumni won first prize in the DHL Temperature-Controlled Supply Chain Hackathon Challenge



NUS MSBA students won first prize at CFLD-NUS Business Analytics Innovation Challenge 2017



NUS MSBA students won first prize in ANZ-NUS Financial Services Innovation Challenge 2016



NUS MSBA students won inaugural NUS Financial Analytics Competition 2014

STUDENT TESTIMONIALS

NUS MSBA provided a deep understanding of the latest advances in AI, Machine Learning and Big Data which are important skills required in my day to day current role to bridge business, digital and data analytics. The greatest takeaway was being exposed to infinite possibilities of building risk and data driven business models. Current scalability cloud compute and data analytics affords businesses significant new opportunities.



Irving Sequeira
Senior Vice President - Digital Bancassurance, DBS Bank
MSBA Intake 2014/2015

The NUS MSBA course has strengthened my analytical skills to gain insights of the business & operations opportunities as well as my ability to communicate information with a compelling narrative.



Chua Hian Choon
Senior Director
Systems on Silicon Manufacturing Co Pte Ltd (SSMC, JV of NXP and TSMC)
MSBA Intake 2018/2019

The NUS MSBA taught me the nuts-and-bolts of data analytics and combines the best from both the business and computing worlds. There is also a strong emphasis on independent, self-directed study and this helped individuals develop independent critical business thinking, a skill that is highly sought after by companies.



Ong Wee Ling
Senior Manager,
Ministry of Health
MSBA Intake 2016/2017

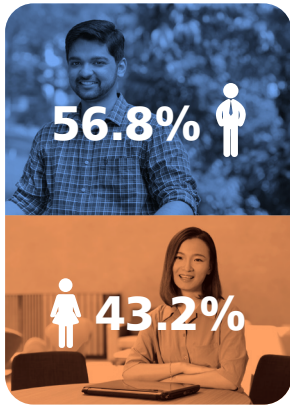
The greatest takeaway from NUS MSBA for me is that while it is very easy for anyone to implement Machine Learning with off the shelf packages and tools these days, real expertise only comes from a sound understanding of the science behind these models. I have to thank my professors and the programme for helping me to gain this understanding and also instilling the curiosity and self-drive to continuously update my knowledge. This has armed me with the confidence to lead my present team in new projects.



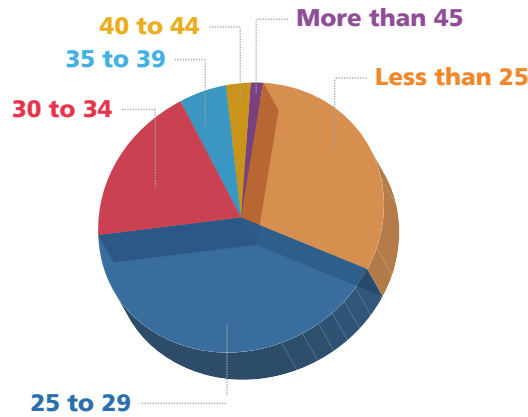
Debosmita Chaudhuri
Vice President,
Prime Services Client Analytics
Strats, Goldman Sachs, London
MSBA Intake 2017/2018

STUDENT PROFILE

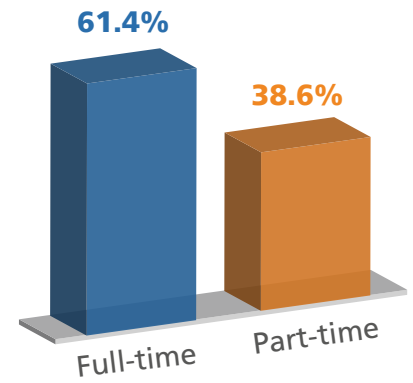
GENDER



TYPICAL AGE RANGE



FULL/PART TIME



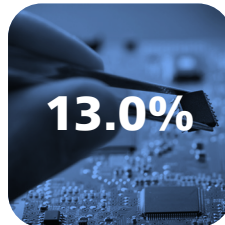
INDUSTRY BACKGROUND (TOP 5)



Banking, Financial & Insurance-Related Activities



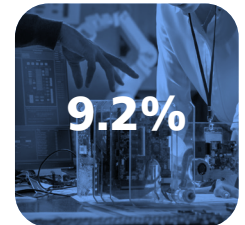
Information & Communications Technology



Professional, Scientific & Technical Activities



Public Administration & Defence



Research & Development

ACADEMIC BACKGROUND



Engineering



Business



Science



Computing/IT



Arts and Social Sciences

INTERNATIONAL STUDENTS



STUDENT NATIONALITIES



EMPLOYABILITY



OUR ALUMNI

PARTNER AND ALUMNI LIST

Consultancy Services

- Accenture LLP
- BCG (Boston Consulting Group)
- Deloitte
- Ernst & Young
- KPMG Services Pte. Ltd.
- Sia Partners
- Stradegi Consulting

Fast-Moving Consumer Goods

- Nestlé S.A.
- P&G (Procter & Gamble)
- Unilever Singapore Pte. Ltd.
- Zalora Group

Government

- DSTA (Defence Science and Technology Agency)
- Enterprise Singapore
- Ministry of Health (Singapore)
- PUB (Public Utilities Board)
- SingHealth

Financial Service and Insurance

- Allianz SE
- AXA Insurance Pte. Ltd.
- Bloomberg LP
- BNY Mellon (The Bank of New York Corporation)
- DBS Bank Ltd.
- Goldman Sachs & Co. LLC
- Great Eastern Holdings Ltd.
- HSBC Bank (Singapore) Ltd.
- J.P. Morgan Chase & Co.
- Mitsubishi UFJ Financial Group, Inc.
- Munich Re Group
- NTUC Income
- OCBC Bank
- PayPal Pte. Ltd.
- Standard Chartered Bank
- Swiss Re
- The Blackstone Group L.P.
- UOB (United Overseas Bank Ltd.)

Information Technology

- Apple Inc.
- Baidu, Inc.
- Dassault Systèmes
- Dell Technologies Inc.
- Facebook, Inc.
- Google LLC
- GrabTaxi Holdings Pte. Ltd.
- HubSpot, Inc.
- IBM
- Lenovo Inc.
- LinkedIn Corporation
- Logitech International S.A.
- Microsoft Corporation
- Palantir Technologies
- SAP
- SAS Institute Inc.
- SenseTime
- Twitter
- ViSenze Pte. Ltd.
- Y3 Technologies Pte. Ltd.

Retail

- Alibaba Group Holding Ltd.
- Amazon.com, Inc.
- Lazada Group

Healthcare

- Baxter International Inc.
- IHIS (Integrated Health Information Systems) Pte. Ltd.
- Johnson & Johnson Pte. Ltd. JurongHealth
- MOH Holdings Pte. Ltd.
- MSD

Logistics & Manufacturing

- BASF SE
- Changi Airport Group
- DHL
- Philips
- PSA Corporation Ltd.
- SMRT Corporation Ltd.
- Tetra Pak, Inc.

Real Estate and Hotel

- AccorHotels
- CFLD (China Fortune Land Development Co., Ltd.)
- Marina Bay Sands Pte. Ltd.

WORDS FROM OUR PARTNERS



I think the NUS Business Analytics Centre (BAC) Advisory Board is a very necessary constituent of how this programme will be successful. IBM was a pioneer in this collaboration of setting up NUS BAC, and it is my honour to be leading the board.

The fact that we have representation from different industry practitioners on the Board allows us to bring real-world advice to the NUS BAC team as they look at the curriculum as well as the type of students that they want to have as part of this course.

Abraham Thomas

Managing Director, IBM Singapore
NUS BAC Advisory Board Chairman



The NUS MSBA students come with a fresh perspective in new techniques that they have picked up in school and all of that helped my data science team to grow and learn to do things differently. Each of the student were assigned with a real-life problem that we are solving on, and the range of real life problems is quite broad. In all our use cases, we have seen MSBA students add value to what we are enhancing. The working relationship has been very positive.

Sameer Gupta

Managing Director,
Chief Analytics Officer, DBS Bank



It was a symbiotic relationship partnering with NUS Business Analytics Centre (BAC). We have benefited by gaining ideas and inspiration having MSBA students on board who have helped us accomplish our goals here at Marina Bay Sands.

Ian Wilson

Senior Vice President of Non-Gaming Operations, Marina Bay Sands



We had some great projects with the NUS MSBA students here at SAP. Not only was it a great capstone project but they have created real business impact for us. All of these capstone projects are using big data, machine learning, and real time analytics which helped us in gaining better business insights to run our company better.

Scott Russell

President Asia Pacific Japan, SAP