



Institute of  
Data

**Remote learning for all courses is available.** Our interactive remote format enabled by video conferencing technology is a rich and connected experience featuring virtual break-out rooms, shared screens, digital whiteboards, peer to peer collaboration and instructor support.



# Data Science & AI Program

**GET TRAINED BY INDUSTRY EXPERTS**

12 WEEKS FULL TIME | 24 WEEKS PART TIME



# Contents

From the Chairman: <i>Institute of Data Academic Board</i>	3
Overview	4
Program Entry Requirements	7
Program Structure & Training	10
Certification	12
IOD Graduate Job Success	13
IOD Career Accelerator	14
Career Outlook	16
Application Checklist	18
Enrolment & Deposit: Next Steps	18
Your Investment	19



## Ahmed Fattah

IOD Academic  
Board Chairman

# From the Chairman of the Institute of Data Academic Board

It is my pleasure to introduce you to the Institute of Data (IOD) Data Science and AI Program.

IOD recruits a diverse cohort of highly-motivated IT and non-IT candidates who are looking to accelerate and transition their career into Data Science and Artificial Intelligence (AI). IOD offers a practical, remote or in-class, industry-focused training program designed to train new Data Scientists for this high-demand industry. In this renowned technology program, you will be immersed in a workshop style learning experience and trained with the latest practical tools for the industry.

You will learn team-based skills working in a small cohort of students similar to a workplace environment, while applying what you learn on real business problems.

You'll learn from internationally recognised instructors with industry experience, you'll get insights from industry professionals, and you'll benefit from the knowledge of your fellow students, many of whom have worked in technology and data.

IOD partners with some of the country's leading technology training institutes and government agencies to deliver full-time and part-time programs, including an intensive career accelerator program to create a cohesive and innovative training and career transition program. After studying, you will also develop your professional network by becoming a member of the Institute of Data and gain access to an industry network of thousands of employers at enterprises, businesses, government and non-profits. A dedicated job outcomes program provides graduates with career coaching, access to job opportunities, hiring events and industry networks. You will receive an industry certification and membership to the Institute of Data.

If you're an ambitious professional looking to transform your career quickly, consider the Data Science Part Time or Full Time Program. We're training the Data Scientists of the future and we'd welcome you to our program.

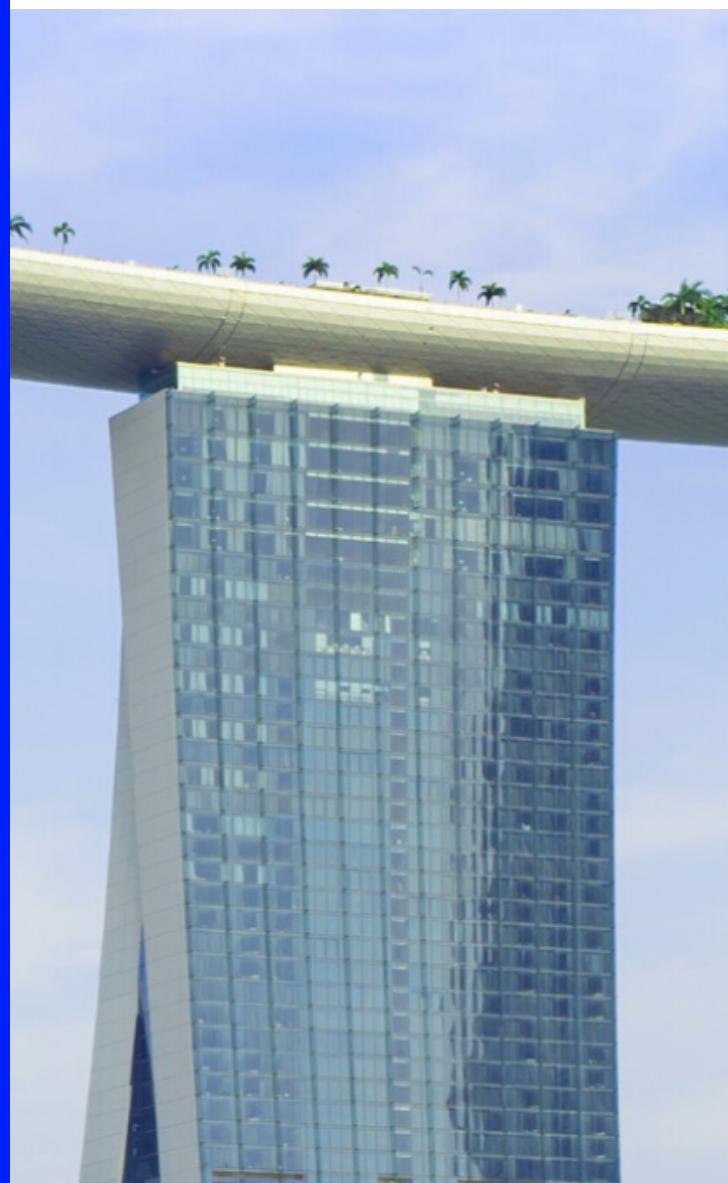


# Overview

The Institute of Data Data Science & AI Program is designed for IT and non-IT professionals who are interested in a career in Data Science, Analytics, Machine Learning and Artificial Intelligence.

The program includes intensive remote or in-class training and a career accelerator that has been devised in partnership with our corporate industry partners. The course content has been tailored to give you the skills that are demanded by businesses in today's rapidly evolving jobs market.

The program is delivered by **experts in vocational training** and career transitions at the Institute of Data. The Institute of Data provides a proven pathway into the data science industry, giving you the opportunity for rapid career growth and acceleration through education.





# Who is IOD?

Launching in 2017 as Black Cat Data and evolving with the Industry, the Institute of Data is a community of data professionals striving to transform careers for a data driven world. The Institute of Data runs events and education programs for the community and provides consulting services to the industry.

With the rapid adoption of Information Technology, Data Science, Cyber Security and Artificial Intelligence, the modern professional must adapt in order to meet the demands of industry and stay competitive in the job market.

The Institute of Data helps its members to continually develop and evolve in this high-growth industry through our training focused education programs and industry networking events.



Community  
of data  
professionals  
transforming  
careers for a data  
driven world

We help modern  
professionals  
stay competitive  
in the job market

Our education  
programs give you  
the skills  
demanded by this  
high-growth  
industry

# IOD Academic Board

Drawn from industry and academia, the IOD Academic Board guides the development of the certification standards and education partnerships to ensure that our education programs meet the needs of members and the industry.



**Ahmed  
Fattah**

**Senior Data Science and AI Trainer at the IOD  
Academic Board Chairman**

Ahmed Fattah is the Senior Data Science and AI Trainer at the IOD. Ahmed was the former AI Solution Architect at IBM where he held various roles in IT and Analytics for over 15 years. Ahmed's extensive commercial experience covers local and international projects, successfully designing and implementing technology projects for IBM at SMEs, enterprises and government.



**Allen Nugent**

**Senior Data Analyst at Healthdirect Australia**

Allen Nugent is an experienced Data Scientist with industry expertise in customer behaviour, risk prediction, customer service, HR and eHealth. From 2015, Allen worked as a consultant to SME and enterprises, supporting digital transformation through predictive analytics and data systems for informing strategic decision-making and driving smarter business operations.



**Alfred Krzywicki**

**Research Fellow in the School of Computer Science and Engineering at UNSW**

Alfred Krzywicki is a Research Fellow in the School of Computer Science and Engineering at the University of New South Wales, Australia, with a background in both software engineering and AI. Alfred receiving his Ph.D. from the same university in 2012, working on social media analysis and contributed to the implementation and commercial deployment of a recommender system. Alfred's current research interests include recommender systems, text and stream mining for knowledge extraction from web and social media documents.

# Program Entry Requirements

Through the Data Science part time or full time program, the Institute of Data supports motivated and dedicated professionals to take the next step in their career by becoming certified members of the Institute of Data community.

## Is the program right for me?

If you are interested in launching your data science career or upskilling to data science to re-energise your career prospects then yes, this program is right for you.

The Data Science & AI program provides leading industry focused data science, analytics and machine learning training combined with a career acceleration process to maximise new employment and internal promotion opportunities for each candidate.

**STAGE 1** Complete your practical skills training through the 24-week part time or 12-week full time program.

**STAGE 2** Gain the Institute of Data's Data Science Industry Certification

**STAGE 3** Complete the Institute of Data's Career Accelerator including the Job Outcomes Program and IOD Membership



# Pre-requisites & Applicant Review

The pre-requisites for entry into the program are a degree or experience in any analytical field such as business, science or information technology. Non-IT professionals will need to dedicate extra time to complete the recommended pre-work before starting the program.

Applications for the program are reviewed on the following criteria:



**Motivation**



**Previous Work Experience**



**Character**

## Will my previous work experience and background knowledge help?

There is a high-demand for professionals in the Asia-Pacific region with skills that relate to a career in data.

Specifically, professionals with qualifications in the following are at a competitive advantage:

Information Technology	Consulting (any field)
Mathematics / Statistics	Information Systems
Data Analytics	Business Analytics
Database Management	Business Intelligence
Data Mining	Software Engineering
Engineering	Computer Science

Data Science and Analytics has had a transformative impact on businesses across diverse industry sectors. As the industry and the amount of data continues to grow - more and more businesses are seeking to hire professionals with data science qualifications in addition to their related industry experience.

So, if you have experience or expertise in the following areas and you're interested in data – becoming trained in data science and analytics is a **strategic** career move:



# Program Structure & Data Training

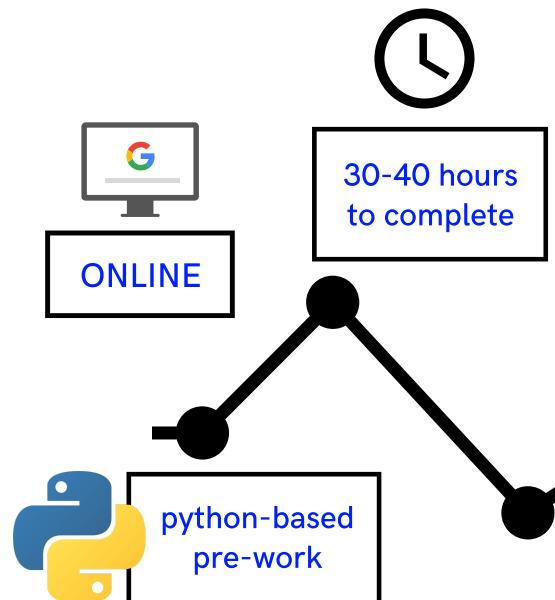
## Pre-Work

The Institute has curated a set of recommended pre-work modules to guarantee successful completion of the program.

The python-based pre-work is an interactive learning experience designed to prepare every student with the skills required to complete all coursework and training during the data science & AI program.

Pre-work takes approximately 30-40 hours to complete and must be completed in your own time before the program start date.

\*Pre-work is sent to students immediately after enrolment into the program.



## Data Science & AI Program

Through the Data Science & AI Program students learn how to create predictive models by learning to wrangle, analyse, visualise and find insight into data from a team of professional Data Scientist Instructors. Students undertake a professional intensive course (remote or in person) from a team of expert industry trainers from leading consultancies and enterprises, **totalling over 400 training and project hours** to ensure you acquire the most sought-after practical training in the country.



### Part Time Program

Time Commitment: 24 Weeks

2 night classes per week

6pm-9pm

1 fortnightly Saturday class

9am-5pm

### Full Time Program

Time Commitment: 12 Weeks

5 classes per week

Monday-Friday

9am-5pm

### Campus Location

Singapore CBD

### Format

Remote or In Person

# Course Overview

This breakdown is an approximate allocation of the course topics for the duration of the 12-week full time and 24-week part time data science & AI program. The delivery sequence may be adjusted to suit the needs of each cohort.

WEEK PT:1, 2 FT:1	Course introduction and overview Programming fundamentals Math & statistics fundamentals	WEEK 3, 4 2	Exploratory Data Analysis (EDA) Mini Project 1 – data science practice Critical thinking training
WEEK 5, 6 3	Machine Learning: Supervised Learning, Regression	WEEK 7, 8 4	Databases and SQL
WEEK 9, 10 5	Application Program Interfaces (APIs) Questioning technique training	WEEK 11, 12 6	Machine Learning: Supervised Learning, Classification Mini Project 2 – data science practice
WEEK 13, 14 7	Machine Learning: Unsupervised Learning	WEEK 15, 16 8	Decision Trees Research and documentation training
WEEK 17, 18 9	Natural Language Processing (NLP) Mini Project 3 – data science practice	WEEK 19, 20 10	Deep Learning and Artificial Intelligence (AI) Presentation skills training Capstone Project
WEEK 21, 22 11	Ensemble Methods Course re-cap Capstone Project	WEEK 23, 24 12	Course re-cap Capstone Project Presentations

## ONGOING

Additional Topics: determined by students and Lead Trainer  
Job Outcomes Program, Data Science Practice, Capstone Project, Consultation and Presentation training.

## The Complete Data Science & AI Program Syllabus

\* Topics and projects subject to change based on the instructor and local job market requirements.



# Institute of Data Certification

Once you successfully complete the program you will be qualified with the Institute of Data Data Science Industry Certification.

This certification is in-demand by the industry because employers are struggling to find candidates with the practical skills and training essential for jobs in data. This Data Science & AI program aims to fill the skills gap and qualify every candidate with the skills and training required for certification. The certification demonstrates to employers that you are ready to enter any job in the data science industry and handle data related tasks from managers.

Employers are struggling to find certified professionals trained in data science.

**This is where  
you come in.**

Employers are seeking to hire and promote candidates with the IOD's Data Science Industry Certification for **three main reasons:**

**1**

The program teaches candidates how to successfully complete daily data related tasks independently and within a team using industry standard technologies and processes.

**2**

Employers appreciate the IOD Data Science Industry Certification because it provides them with the opportunity to recruit new data hires to meet the needs of their business and evolve within their company.

**3**

Employers within the hidden jobs market trust an industry body's insight and ability to pre-qualify, educate and connect the right candidates to the right employers.

# Graduate Job Success

After gaining the IOD Data Science Industry Certification, students receive active assistance and support to find new employment or internal promotion opportunities through the Job Outcomes Program and IOD's network of mentors, industry partners, employers and career advisors.

**86%** of graduates that complete our Job Outcomes Program achieve a job placement **within 90 days**



Job Outcomes Success



**93%** of graduates that complete our Job Outcomes Program achieve a job placement **within 180 days**



# IOD Career Accelerator

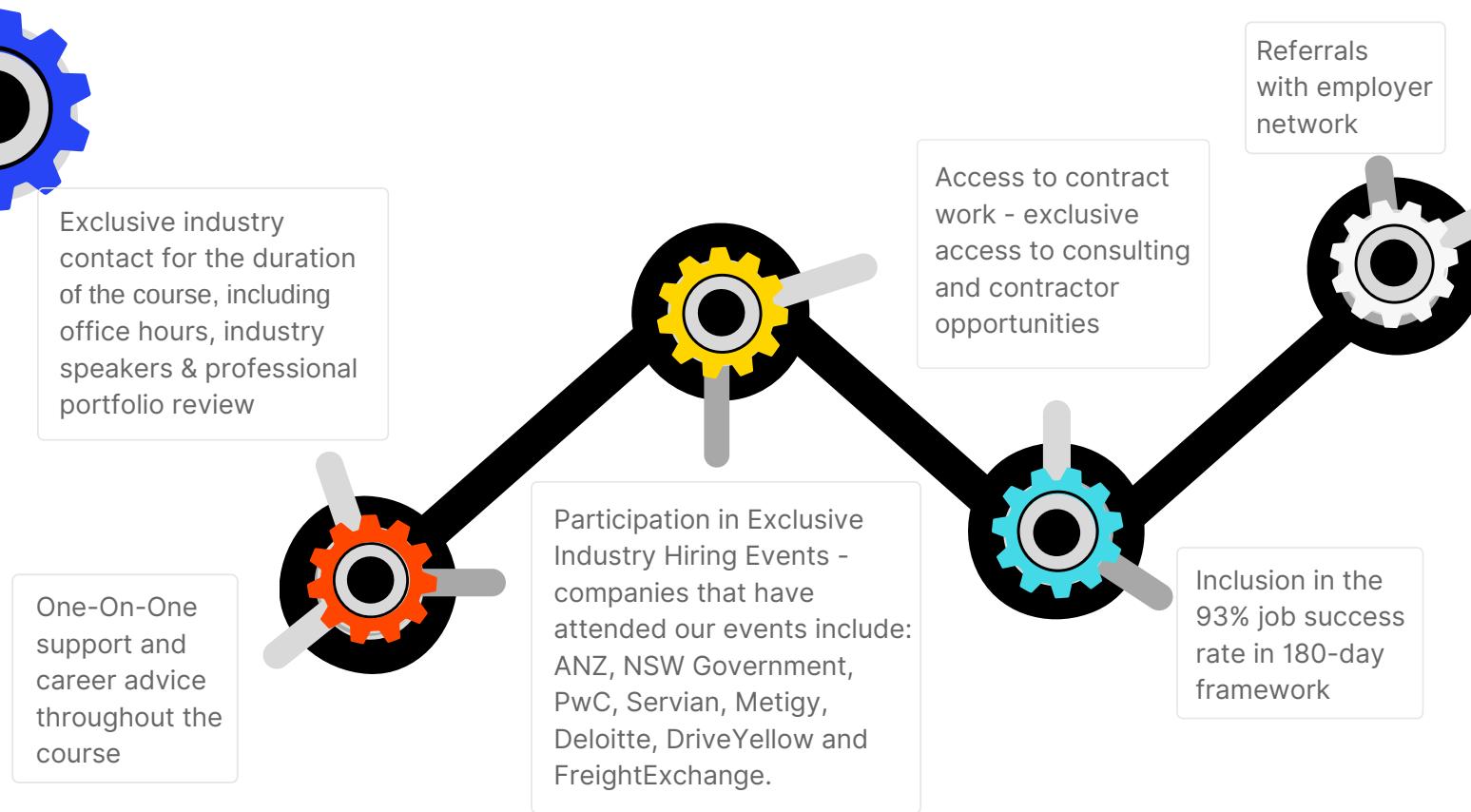
By becoming trained in the skills industry is actually demanding – you will be at a competitive advantage when you start the Institute of Data career acceleration process.

The Institute of Data Career Accelerator helps you to land a job in one of the most sought after fields in Tech with the guidance of Professional Career Coaches & access to the Institute of Data's Hiring Network and Exclusive Membership.

The Career Accelerator includes a Job Outcomes Program & IOD's Membership

## Job Outcomes Program

You will undergo a Job Outcomes Program, which will help position you for the best chance of a new job opportunity and/or internal promotion. [What's on offer:](#)

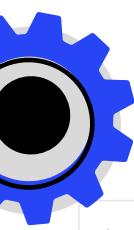


# IOD Career Accelerator

The Outcomes Team is committed to the job preparation of students and alumni through relevant and meaningful professional development opportunities.

## Institute of Data Membership

Successful completion of the program results in industry certification and membership. The certification unlocks access to the hidden jobs market, exclusive events, a more competitive profile and increase in earning power. [What's on offer:](#)



An IOD Jobs Professional Profile visible to 1000+ industry partners and contacts

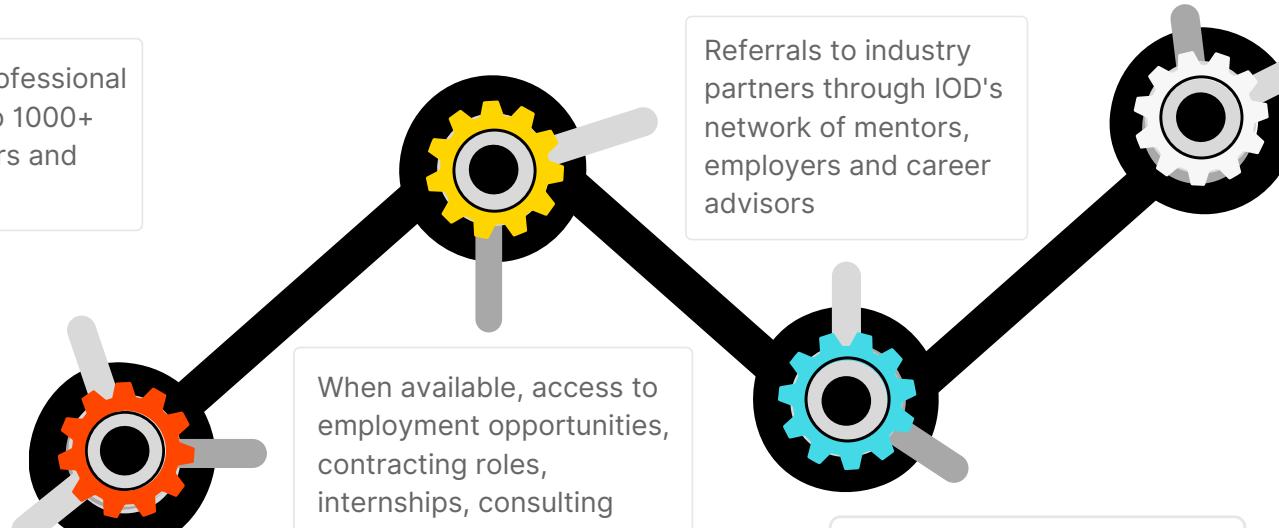
Professional Membership to the Institute of Data

Institute of Data Membership is for 12 months after graduation

Referrals to industry partners through IOD's network of mentors, employers and career advisors

IOD Exclusive Hiring Events where certified members can meet with employers in a relaxed social environment and gain insight, feedback and make valuable industry connections

When available, access to employment opportunities, contracting roles, internships, consulting engagements, invites to industry events, competitions, trade fairs, and other career enhancement activities



# Career Outlook

The world's data is exponentially growing. This influx of data will call upon data science and analytics professionals that can analyse, understand and utilise this data in a way that enables businesses to thrive and meet the needs of their customers.

## Your future Job Prospects as a Data Professional

You could be working as a:

Data Scientist  
Consultant  
Data Analyst  
Data Engineer  
Machine Learning Engineer

Senior-Level director  
Segment Leader  
Chief Data Scientist  
Chief Information Officer

### Work Locally or Internationally

Across a range of sectors within the realms of a corporate enterprise, entrepreneurial tech start-up, small to medium business.

### Industry roles are emerging everyday

That demand data science skills. Job titles are evolving with the industry and adapting to the data driven landscape.

**2.7**  
Million

A report by PwC revealed that 2.7 million new data science and analytics jobs will be created by 2020.

This means your future as a trained data science professional will be demanding & in-demand.



# Global Skills Shortage

In the current industry climate, businesses are seeking data science and analytics professionals to lead their data-driven business initiatives. However, there aren't enough qualified data science professionals to meet the needs of every business.

**\$50k–  
\$70k**

SGD  
**Entry Level**

**\$80k–  
\$110k**

SGD  
**Mid Level**  
2 Years Experience

**\$120k–  
\$180k**

SGD  
**Senior Level**  
4 Years Experience

## This high-demand, low-supply scenario

Means the career outlook and the salary outlook for data scientists is on the rise and will continue to climb.

2020 Data Scientist Salary Ranges in Singapore  
Salaries are dependent on the individual business and career track within the company

## Salary Projections

**Singapore is expected to catch up to the US tech market in the next 3 years**

With the Singaporean data scientist salary average surging, and expected to range between SGD\$120k – SGD\$150k by 2021.



# Application Checklist

**Ready to enrol? Great! Let's double-check the following:**

Have you read the course outline & syllabus	Yes / No
Are you determined to transform your career	Yes / No
Are you currently working	Yes / No
Can you commit 24 weeks part time or 12 weeks full time to complete the program	Yes / No
If part time, can you also commit to 1 Saturday Class (9am-5pm) every fortnight	Yes / No
Are you based in Singapore or able to login remotely	Yes / No
Can you afford the \$500 pre-payment amount	Yes / No
Can you afford the remaining deposit amount before your course start date	Yes / No
Do you have a laptop for class	Yes / No
Will you be able to complete the pre-work before your course start date	Yes / No
Are you committed to complete the IOD Career Accelerator & progress your career	Yes / No

## Enrolment & Deposit: Next Steps

1

Complete the Enrolment Form Online and make the pre-payment of \$500 via the e-payment portal.



2

Complete the pre-work before the course start date.

3

Contact the Education Provider to organise a payment plan.

4

Pay remaining deposit before the start of the program to the Education Provider.

If you would like to discuss any of the above requirements, please schedule a call here:



# Your Investment

Your investment in the Data Science & AI Program, including all tuition fees and the career accelerator is SGD\$15,000 for the full time and part time program.

## Part time program payment plan and schedule

**\$500**

**\$2000**

**\$12,500**

### STEP 1

#### Pre-payment Deposit

DUE: At the time of enrolment to secure your seat in the program.



### STEP 2

#### Remaining Pre-payment Deposit

DUE: Before the course start date – paid to the Education Provider.

### STEP 3

#### Remaining Program Fees

DUE: In monthly instalments after starting the program.

## Full time program payment plan and schedule

**\$500**

**\$2000**

**\$12,500**

### STEP 1

#### Pre-payment Deposit

DUE: At the time of enrolment to secure your seat in the program.



### STEP 2

#### Remaining Pre-payment Deposit

DUE: Before the course start date – paid to the Education Provider.

### STEP 3

#### Remaining Program Fees

DUE: In monthly instalments after starting the program.

Interest-free payment plans available. Schedule a call here:



If you would like to discuss the program, financing options, enrolment or any of the above requirements in more detail, schedule a call here:

