WeCloud**Data**

# Business Intelligence

## COURSE & SYLLABUS INFO

# CAREER FACTS

## JOB SECURITY

No need to worry if your job is to collect, process and communicate data. Data analysts *make* data work for organizations

## NEXT BIG THINGS

In the next 10 years, ...
**Digital transformation** (app + web)
**Automation** (day-to-day repeatable tasks)
**AI** (decisions)
... are all data-driven across industries, functions, processes, roles.

Demand for data analysts has exploded since 2015. Open source programming (powerful algorithms, libraries, packages) and cloud computing (unlimited memory, storage, speed) make collecting, processing and communicating data easy, fast, cheap (even free). *You're standing on the shoulders of millions of developers in open source communities* - that's how you can reach your goal so fast!

## DATA IS NOT IT

## Data isn't IT, it's between business and IT.

The ultimate goal of almost all analytics is to grow business: (increasing) revenue - (decreasing) cost = (maximum) profit. Businesses run the operations while IT "keeps the lights on". IT generates data vs business consumes data. But data is too big, everywhere, hairy, messy, complex - to be consumable.

| Business | | IT |
|---|---|---|
| IT is not supportive | **VS.** | Business doesn't know what they want |
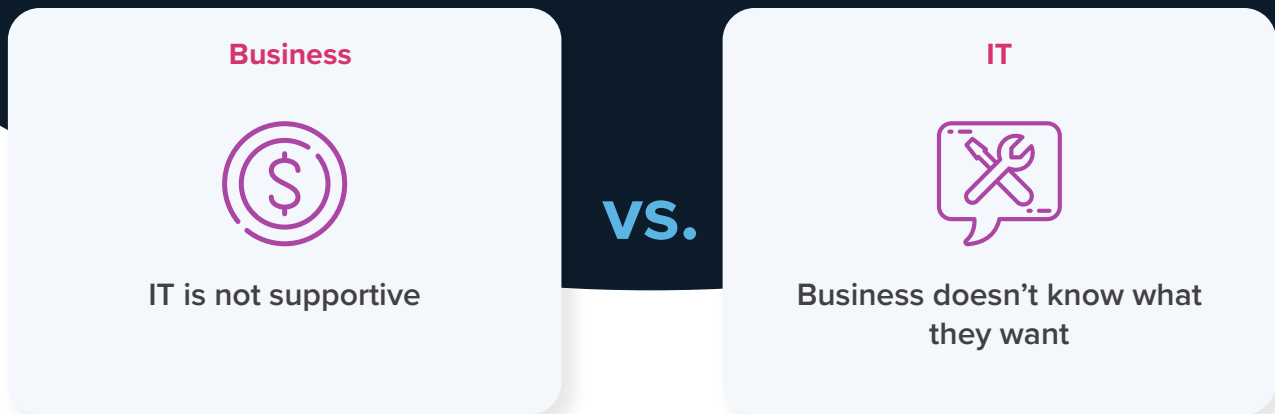
There is a big gap between business and IT, DA is to close the gap.
**Is it possible to have bad IT infrastructure but good data?**

## ORGANIZATION NEEDS

Gartner's 4 levels of DA maturity:

What happened?
Why did it happen?
What will happen?
How can we make it happen?

**Gartner**

Most organizations are struggling with level 1 and 2. There are almost always gaps between business - data - insight - action - outcome. They need a lot of DA's to close those gaps and make data work for organizations!

## INDIVIDUAL POSITIONING STRATEGY

Develop a professional range to close those gaps. Become (BA + DA + BI) full stack. Multiplying effect e.g. top 50% BA x top 25% DA x top 50% BI = make you 6.25%, rare and valuable!

**Right mindset:**
"My experience is an asset, but I'm not stuck in the past."

## SWISS ARMY KNIFE EMPLOYABLE SKILLS

You fit in so easily across industries, functions, processes, roles. You can apply for any companies: jobs using Excel-SQL-Python-Tableau-Power BI, 600-900 new jobs everyday even during COVID-19 pandemic!

★★★★★
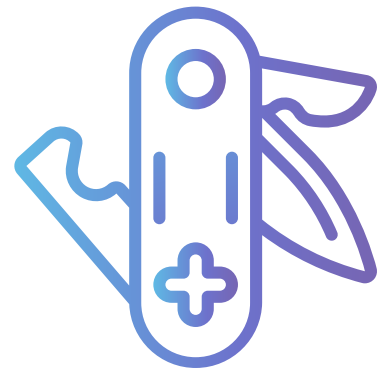
The job market is an ever evolving industry in itself. WeCloudData provides you the required skills (technical & non-technical), guidance and much needed re-assurance, to not just maneuver it, but also make the most if it. The team helps you regardless of if you're trying to progress in your own field or attempting to make an absolute career switch, like I did.
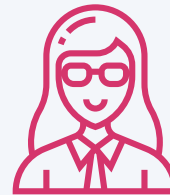
*- Sandeep Gupta -*

## WHO IS IT FOR?

Who want to develop a competitive
advantage within a short time

### New Grads &
### Job Seekers

*who are finding directions &
looking for the first job*

### Experienced
### Professionals

*who want to change lanes
and switch careers*

## PAY SCALE

# $55,000 - $85,000

**First job base salary**

The wider the range, the more
you make, full-stack makes the most!

# PROGRAM HIGHLIGHTS

**46 DAYS**
12 weeks

**160 HOURS**
4 days a week

**MONDAY - THURSDAY**
7:00pm - 10:00pm EST

**ASK ME ANYTHING**
6:00pm - 7:00pm EST

**5 INDUSTRY EXPERTS**
to learn from the bests

**INTERACTIVE & LIVE**
provide the best experiences

**CAREER SUPPORT**
1-on-1

**8 PROJECTS**
to build your portfolios

Eric is a very passionate mentor and really cares about the prospective data professionals who sign up for this service. The WeCloudData team has great connections in the industry and gives good advice on career development, job hunting, and interviewing. I received Resume advice, job hunting tips, mock interviews, in-class courses, and introductions that helped me understand this profession on a level that propelled my career.

*- Yahia Kala -*

WeCloudData helped me a lot with my career switching, the instructors here are great and professional, they presented in a quite clear and understandable way, definitely recommend to everyone who is looking for a start on Data!

*- Mengying Li -*

# PROGRAM DETAILS



## FUNDAMENTAL + APPLIED

It's impossible and unnecessary to learn everything. So you learn 20% essential skills to solve 80% business problems. You learn just enough to pass technical interviews.

Resume: do things worth writing, write things worth reading.

Portfolio: 6 projects each including business model + data model + clean code + compelling visual.

You will never have all the qualifications listed on the job descriptions so focus on their needs (challenges) and emotions (frustrations) - that's how you click with them!

## BOOTCAMP SERVICES

You come with strengths & weaknesses. Personalized learning path fits your background and goals.

**Pre-Camp (20 hours)**:
- No prerequisites, start any time, but at least one week prior to Bootcamp start date
- 4 hours TA-Supported: installations and practices
- 16 hours self-paced practice of Pre-Camp Package
- Level up your skills with 5 data tools
- Personalized learning path to fit your background and goal, 20 hours (4 hours TA-led) accelerated learning through carefully curated materials (videos, sample codes, quizzes and assignments) to inspire your interest and confidence, and warm you up with 5 data tools before bootcamp starts.

**During-Camp Lab (40 hours) TA-supported:** ask me anything about assignments, quizzes, portfolios, certifications

# PORTFOLIO BUILDING

## How did we fail to learn?

If your learning involves only input and no output, it will be bad! Learning is both input and output. Listening to instructors and reading books are input. Drilling, grinding and sharpening LeetCode and solving industry use cases are output. Here's an example. I've listened to music all my life. I think I know and understand music until I sit myself in front of a piano and try to compose. Guess what? What comes out of the piano scares my cat. You laugh: "Eric, you're so naïve. Listening to music and understanding it doesn't mean you can make music." Of course not! We all know that.

But isn't it the same thing with data skill? Doesn't matter how many online courses you take, how many YouTube videos you watch, how many blogs you read, you still feel empty. If you don't believe me, wait for 3 months, the stuff you have memorized will be gone like you've never had it before. Data skill is tricky. You have to use it to have it. The more you use it, the more you have it. This is where we can help you. We teach you output. Output is to make input stay, sink in, and register in your body so it becomes muscle memory.



## How do we teach output?

Portfolio. Portfolio is a collection of LeetCode problems and industry-grade projects. Your learning outcomes must be displayed/presentable on your website/during interviews. As the saying goes, talk is cheap, show me the code, the workflow, the model, the dashboard! Learning by making - imitating, repeating, recording demos, auditioning in person - is the most effective way to train and evaluate singers, musicians, artists, cooks... Why is it any different to train and evaluate data professionals?

# CURRICULUM

## 1 EXCEL

What you see is what you get, feel good with small data, develop good data habits, use Excel as a sandbox to map data, build data model, prototype reports and dashboards. Among other tricks, you will master formats, formulas, functions, filters, conditional formatting, text to columns, nested ifs, countifs, sumifs, vlookup, index match, pivot table, pivot chart, slicer, timeline, change the shape of data long-to-wide (pivot) and wide-to-long (unpivot), Excel is also enough for quick-and-dirty even interactive performance reporting, management reporting and financial reporting.

Organization's internal data resides in relational database (a collection of related tables). You can expertly turn questions into queries, go beyond select-from-where to use window functions to improve performance. From Excel (data steps) to SQL (coding), you shift your mindset to pursue readability, traceability and reproducibility (data lineage and data governance). You also realize SQL is more about logical than coding. At the end you should memorize database schema e.g. CRM and deeply understand data modelling.

## 2 SQL

## 3 PYTHON

Python gives you so much "guilt pleasure" because you can scrape almost anything from Internet (external data). API wrappers make it easier, better, faster. Let curiosity take you and you learn various libraries and functions e.g. Pandas, NumPy, SciPy, scikit-learn, statsmodels, matplotlib on top of datatypes, functions, loops, classes, objects, web scraping techniques, dataframe operations.

Hans Rosling's TED talk and compelling visual "Let my dataset change your mindset" blows you away! Then you are delighted to see you can reproduce the same animation on Tableau. You are overjoyed to realize that Tableau is a data analysis tool, it happens to do dashboards. You go on a journey using Tableau to interrogate data and confidently answer many business questions. Be warned: Tableau is easy to learn, but hard to master. Through imitation and repetition, you will grasp joins & blends, table calculations, LOD calculations, parameters, roll up, drill down, slice & dice, sort & rank, Top N, forecast. You will know when to use what chart to visualize metrics by dimensions: line (trend of time series), pie (part-to-whole relationship), column/bar (comparison), histogram (distribution), scatterplot (correlation).

## TABLEAU

## 4

## 5 POWER BI

Tableau is analytically amazing and visually stunning. But data has to be clean and ready for Tableau. Real data is always messy. Arguably, Power BI = Alteryx (ETL) + Tableau (EDA). Power BI is powerful because it has two engines under its hood:

Query Editor and Data Model. You use Query Editor to connect to hundred data sources and clean up data. You use Data Model to build relationships between tables and data analysis expressions (DAX). Power BI is Agile BI. You can build data model and DAX in days or even hours. You build once, use everywhere. You can quickly put together a self-service BI without having to depend on IT. You provide business with a 360° view of how business is doing and where it is going. You catch the attention of executives and clients "in a hurry" and make them "see" data and understand trends and drivers, among others, M/M, Y/Y, MTD, YTD, LTD, actual + forecast vs plan.

Digital transformation, automation and AI are all data-driven. Open data is a trendy concept in data economy. It presents businesses with a huge opportunity to use half of the world's data to make better decisions. Open data also poses a huge challenge as it is often raw, messy, complex, not analyzable, not consumable... The world needs capable data analysts who can go out there hunting for data, make data available and easy to consume. From the data vendor's perspective, making data publicly accessible helps generate inbound traffic and improve user loyalty. The value proposition is not about data itself. It's about curation, availability and usability of data. It goes from needing data to having data in seconds. On the other hand, data consumers can leverage open data and combine it with internal data

## 6 DIGITAL TRANSFORMATION

to generate insights and create values for the economy. In this course, you will use data found on Government of Canada Open Data Portal and apply most practical tools and techniques to make open data consumable, visualize trends and patterns, and present conclusions and recommendations to general public.

**7**

# FINTECH

Finance + Tech = FinTech. Financial innovation happens only if financial data is easy to work with and priced to move. In this series you will develop both finance and tech skills, build data products to solve real problems in payment, lending, trading and insurance space.

## EPISODE 1 - LENDING

You are provided with 15GB of data on AWS - origination, monthly performance and actual loss data of 7.8 million mortgages originated 1999-2018. You are tasked to build a prototype of portfolio reporting solution essential to a consistent and measurable lending business. Sample reports include vintage, roll rate, delinquency movement matrix, and loan loss provisioning. Upon completion, you will demo the prototype to clients how this solution will help them manage credit portfolio performance - drive growth, control losses and operating expenses, maximize profit. If we are awarded this contract, we will assemble a team of data analysts working to its full scope - build dataflows, define metrics, develop dashboards and automate processes.

## EPISODE 2 - TRADING

Stock market is never efficient. Stock prices rarely reflect companies' true values. Stocks are either undervalued or overvalued due to information asymmetry. You are tasked to make financial data available and analyzable across companies and periods. You acquire, evaluate and assimilate 10 years of stock data and financial statements for 15,000 companies to give your clients information advantages. You enable your clients to do technical/fundamental analyses and make trading/investment decisions. In the end, you will learn financial data supply chain and how new vendors source, standardize and distribute financial data for a profit. You will even try to develop an algorithmic trading strategy and back test it with historical data to optimize returns. Tools used: SQL (data modeling), Python (RESTful API), Power BI (publishing). Jobs suited: Market Data Analyst, Market Risk Analyst, Financial Analyst.

With supply chain proving to be one of the most crucial aspects of modern business operations, data analytics is one of the key components that drives this critical industry forward. E-commerce has evolved in the last 20 years and completely changed the way we shop. We have come to expect quality products ordered online (anytime anywhere), shipped (immediately from anywhere around the world), delivered (on time at our doorstep). Competition is high. Market is fast paced. Customer experience is priority number one. Companies that fail to live up to these expectations will not survive.

## SUPPLY CHAIN ANALYTICS

**8**

With this module, you will delve into the daily operational activities of big box retail companies and how the data analytics process is used to maintain and improve the operation flow.

**9**

## DIGITAL MARKETING

"Half the money I spent on advertising is wasted; trouble is I don't know which half." --- John Wanamaker (1838-1922). It is the dream of every business to accurately measure ROI of every activity and dollar spent. In this Google Merchandise Store use case, you will try your best to solve the 100-year-old challenge: "marketing attribution"; Use hit-level raw data to re-create Google Analytics dimensions and metrics; Analyze consumer digital footprint across channels, devices, sources, mediums; Answer the burning questions from CMO and marking team: Where my traffic comes from and how it coverts? Of all the digital marketing tactics, what works and what doesn't? Tools used: Google Analytics,

Google Cloud Platform, BigQuery, Data Studio or Tableau. Jobs suited: Digital Data Analyst and Digital Marketers have been the most hired of all marketing professionals. Demand more than doubles supply.

As an analyst working with CRM data, you have a big opportunity to help sales leaders figure out how to increase revenue. Sales leaders want to know how many deals have been "closed won", how much revenue is in the bank, how much more they're likely to generate from pipeline. Salesforce is designed for sales team to manage customer relationships (optimized as an app) not answer complex business questions.

**CRM ANALYTICS**

**10**

You are tasked to recreate Salesforce CRM reports with SQL and Power BI. It buys you credibility if your reports match Salesforce out-of-the-box reports, but your reports can answer more complex business questions. You have Salesforce CRM data model engraved in your mind, which is a collection of related tables including lead (prospect/potential opportunity), opportunity (pending sale/deal), contact (employee) and account (employer). You support sales team to track pipeline, stay on top of KPIs, push opportunities through pipeline and close them. Your Salesforce dashboards includes headline + picture + story, which is interactice on filtering (WHERE), grouping (GROUP BY), aggregation (SELECT). Headline covers: $ own opp, # open opp, $ avg opp size, won opp vs quota. You can acurately forecast sales based on calculated historical probabilities by stage e.g. Suspect (0%), Qualification (3%), Early (10%), Middle (17%), Strong (60%), Closing (92%). You can confidently answer business questions such as: How are we doing this quarter? Are we on track to reach quota? What are the must-win deals? How fast are we growing?

## 11 MICROSOFT 365 WORKFLOW AUTOMATION

Data analytics is the game changer in digital economy. Businesses are leveraging data analytics to develop core competencies or completely revamping business models. Aspiring data analytics professionals are busy learning new data tools to solve business problems. But they overlook developing one important skill to make data analytics effective - data analytics automation. You build reusable workflows so businesses can run them as analytical apps to collect, process and consume data, automate tedious data processes, and quickly turn data into actionable insights and business outcomes. Data analytics automation directly leads to productivity gains for businesses and is the kind of quality every employer wants to see on data analysts' resumes.

Build risk models to predict loan default probability for a retail bank. Business context includes consumer credit lifecycle and key decision areas; application, credit report and transaction data; credit scoring to separate Goods from Bads. As a Risk Analyst you will work with millions of rows of real banking data, acquire real business knowledge of risk management and data analytics, learn the most commonly used SQL techniques and feel confident to pass SQL and Python tests, build a typical machine learning model to predict default probability and manage credit risk.

## RISK MANAGEMENT 12

Adventure Works (AW) is a multinational corporation that manufactures and sells metal and composite bicycles to North America, Europe and Asia. Its base operation is in Bothell, Washington with 290 employees. It has several regional sales offices throughout its market base. In 2000, AW bought Importadores Neptuno (IN), a manufacturing plant in Mexico. IN manufactures several subcomponents. These subcomponents are shipped to Bothell for assembly of final product. In 2001, IN became the sole manufacturer and distributor of touring bicycles. The CEO of AW is Ken Sánchez. Coming off a successful fiscal year, AW is looking for a data analyst who can extract intelligence from their data to increase market share by targeting sales to their best customers, extending product availability through a marketing website, and reducing production costs. Upon successful completion of this use case, you will be able to 1) Back up and restore a database to SQL Server; 2) Deploy the database to Azure; 3) Connect Power BI to SQL Server; 4) Connect Power BI to Azure SQL Database; 5) Create a tabular model in Power BI; 6) Write DAX queries in DAX Studio to understand tabular model; 7) Write and edit DAX formula in Tabular Editor to test calculated columns (row context), measures (filter context), calculated tables (context transition); 8) Run Python script in Power BI; 9) Collect and process data, communicate insights into processes, visualize KPI trends and drivers, make recommendations with impact on expected outcomes.
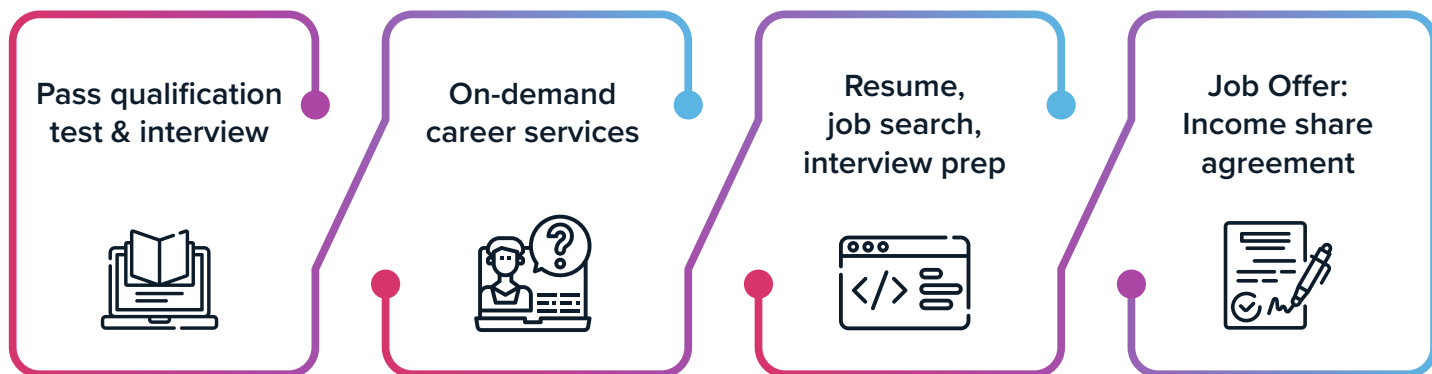
# One-on-one Career Support

We pair you up one-on-one with an expert mentor from the industry who will support you maximum 6 months until you land a job.

- They fix your to-do list and hold you accountable
- They walk you through strategy and execute it with laser focus
- They reveal your mistakes or help you avoid them
- Day after day, you look more competitive on the resume. You become more confident and expressive in interviews. You get more interviews! And you pass interviews with greater odds!

## WeCareer Mentorship

**Pass qualification test & interview**

**On-demand career services**

**Resume, job search, interview prep**

**Job Offer: Income share agreement**

# The future of
# Business Intelligence
# is already here.

### Be ready for it with WeCloudData

# EXPERT INSTRUCTORS

Heeral graduated with a BBA from University of Toronto. He began his career at Scotiabank, worked his way up from a client-facing sales role to various analytics and reporting roles. After spending about 5 years at Scotiabank, he moved to Canaccede Financial Group where he manages an offshore data science team in India as well as all the analytics and reporting capabilities across the company. Heeral is a gifted explainer with Sal Khan kind of quality. He honed his skill to be clear, concise, and encouraging. He believes that just about anyone can learn just about anything, and his assertive and conversational tone instills a good sense of confidence in students. You will love him and learn a great deal of good data habits from him.

**Heeral Patel**

**Director, Analytics and Reporting
Canaccede Financial Group**

**Pravin Khatake**

**Senior Manager, AML Analytics
Scotiabank**

Pravin has 6+ years of experience in IT, Commercial Banking and Analytics. Pravin is highly skilled in collecting, cleaning, aggregating, modelling and insight visualization using SQL, Python and various BI tools such as Power BI, Tableau and deep working knowledge of Machine Learning. Pravin has two degrees, Bachelor in Computer Engineering and Masters in Management Studies from JBIMS, Mumbai

Eric has a master's degree in civil engineering from University of Toronto. After working as a Civil Engineer for a year, Eric found his passion in Data Analytics and switched his career direction after a 3-month intensive study at WeCloudData Data Science Bootcamp. Eric has successfully delivered high-impact data projects including business intelligence dashboards, machine learning models and data processing pipelines across Financial Services, Real Estate, and E-Commerce. Eric is happy to share his knowledge in data analytics, as well as his own experience for those who are looking for a career transition
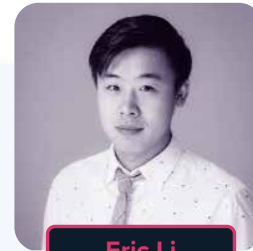
**Eric Li**

**AI Implementation Engineer
OfferFit**

**Ken Ding**

**Senior Manager, Credit Risk Modeling
BMO Financial Group**

MBA from Rotman School of Management, University of Toronto. 10 years' experience in data science, consulting and training and mentoring and bringing the best out of candidates. Specializes in retail lending, campaign analytics and credit risk modelling.

**Yahia Kala**

**Product Manager**
**CMiC**

Yahia has Bachelor's and Master's degrees in Environmental Engineering. After working as a coastal engineer for 3 years, Yahia found his passion in Data Science/Operational BI and successfully switched his career to big-box retailer chain working as a Senior Analyst, Workflow Optimization & Analytics at Shoppers Drug Mart (part of Loblaw Companies) and Product Manager of Analytics at CMiC. Yahia is a subject matter expert in retail pharmacy operations, workflows and strategies. He has delivered high-impact Data Science models and Operational BI solutions resulting in improved operational efficiency, scheduling and workforce management. Yahia loves to share his career switching experience, bring out the best in people and has successfully helped WeCareer mentees land data jobs. When I first met Yahia, he struck me as a highly effective communicator in his brevity and clarity. There is a lot you can learn from Yahia combing business, data and communication to his professional advantage.



**Elvis Liang**

**Business System Analyst**
**The Stars Group**

Elvis Liang has Bachelor's and Master's degrees in Chemical Engineering. After in-depth exploration on career path of chemical engineering, Elvis found his passion in business and data analysis, and successfully switched his career to an online gaming industry working as a Business System Analyst at PokerStars (a brand of Flutter International). He has delivered a high-impact technology upgrade project resulting in improved player satisfaction and is working on gaming data analysis tasks. Elvis loves to share his career switching experience, encourage people and is willing to support learners to land data jobs. With his effectiveness, productivity and executive ability, there is a lot you can learn from Elvis combining business, data and communication to his professional advantage.

# TUITION, GRANTS AND FINANCE OPTIONS

## $5,600
### CAD

As an Ontario registered private career college, you can apply for student line of credit from BMO with lower interest rate.

## MORE QUESTIONS?

Contact our program advisor, Amir, for more information

amir.asadian@weclouddata.com
647-588-4206