

IFT 數據面試

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關於自己

Why there is a Gap between 06/2010 and 09/2013

Basically, I went to work and accumulated financial backup. Applied master degree would be the next step.

自我介紹

Hello, my name is Choi Chong Ha, and I received my bachelor's degree in mathematics from National Tsing Hua University in Taiwan, followed by my mphil degree in mathematics from the Hong Kong University of Science and Technology.

In terms of work experience, I previously worked as a clerk at the Macau University of Science and Technology's business school, where I provided administrative support and assisted event organization. I currently work at the Macao Meteorological and Geophysical Bureau, where my primary responsibilities include data analysis and data visualization by programming.

With respect to the tools, I mostly use SQL for data selection, Python for data analysis, and then PHP and JavaScript for data visualization. Moreover, I am able to work with tableau.

I have worked on two projects about data analysis. The first one is a descriptive statistical project for airport observatory data. The second is the typhoon track probability map.

In summary, I have a solid background in mathematics and practical experience in programming, which enables me to learn theoretic models quickly and put them into practice.

興趣

I enjoy reading; for instance, I recently finished reading volumes 1 and 2 of "The Three-Body Problem,". Despite I studied math. science fiction is not my preferred novel style. I would rather read novels describing people emotions. "Love in the Time of Cholera" is another choice.

怎樣才是一名合格的數據分析師

Being a qualified data analysis is a long-term process. There are a lot of traits would be required. First, find the valued questions that draw public attention and help decision-making for government. Second, applying academic methods to achieve the purposes required comprehensive abilities. When outcomes of analyzing data do not fit the expectation, finding the reasons and modifying the methods are vital. Finally, displaying results with concise articles and interactive and dynamic diagrams would be better to deliver the messages.

工作中的挑戰和應對 (成功)

My colleague contacted the vendor for the typhoon forecast products. He discovered that the outcome differs from that of the ECMWF, an authoritative organization in numerical forecasting. I was interested in those problems and found information from the Hong Kong Observatory's YouTube channel, and I succeeded in following the algorithm introduced to generate the typhoon track probabilities map similar to ECMWF.

We needed to estimate the difficulty of the problem and how long it would take to solve it. Second, and most importantly, how to find possible methods in a sea of information and customize them for your project.

工作中的挑戰和應對 (失敗)

This job's first mission was to build up a numerical weather model and merge observed data into models, named LAPS. Rare information can be found online. I needed to read the code of the model. However, after several months, Laps announced that it would not be updated anymore. As a result, predicting industry trends through online information is crucial, and understanding the fundamental principles would assist in problem-solving.

Data analysis project

I joined a project that aimed to describe airport observatory data that described multiple elements such as humidity, temperature and the height of cloud base. Citizens can view the reports on the SMG website.

機場報告難的地方

Communication is the most challenging part. I worked with airport colleagues. They determined the rules for computing and the boundaries of ranges. As a result, I needed to communicate what they wanted in order to reach out and make a compromise plan. I put into practice a program that required flexibility and achievability.

最大的優勢

I love studying and challenges. Encountering new challenges would push me to think outside the box and more creative, new ideas and methods will be found in the processing in order to tackle them.

最大的劣勢

I am not skill in sports. However, during the previous three years, the COVID-19 epidemic's effects made me realize how important health is. Physical fitness is the best defense, so I started jogging.

I would rather reading than speaking. I like stay alone and as a result i have less communication with others. I still recognized that the importance of team-work, therefore, i would share my difficults or outcomes in time.

Where do you see yourself in five years?

我希望在數據分析上有所發展, 我有結實的數學基礎和有寫程序的經驗, 現在還在不斷學習編程技和機器學習的理論, 相信將來會有很好的實踐

I see my long-term career in data analysis. I have a strong background in math and now working at programming. Moreover, I plan to study new programming techinques and theories of machine learning. I'm

sure these would support my future career path.

不是數據分析師，為什麼要考，離職原因是什麼

I have data analysis experience in my current job but Macao Meteorological and Geophysical Bureau focuses mainly on weather observation. Besides, I found that data analysis with statistics or further machine learning would match my primary study. Furthermore, the way to find and conclude the basic principle behind data would interest me and give me a sense of achievement.

為什麼要請你

I have some experience in programming and developing websites, so I can design an API for the public to access the data. Besides, the new forms of tourism, such as smart tourism and meta tourism, are rising. The source of data acquisition would not in survey form.

What are your career aspirations?

How do you prioritize your work?

對應聘的公司的了解

對我們公司有甚麼了解

[itrc](#) The Centre serves as a management and public policy think-tank and a knowledge provider for tourism and hospitality related research.

The activities include conducting policy studies, designing surveys, reporting findings, as well as organizing seminar

There are four researchs conducted by the center. The First is Macau Tourism Carrying Capacity Study(TCC). It divided two sections, social carrying capacity and physical carrying capacity. The approach is multiple regression modeling.

The Second is Macau Tourist Satisfaction Index(MTSI)

The MTSI measures visitors' satisfaction across 10 tourism related sectors. This includes hotels, restaurants, transportation, heritage attractions, non-heritage attractions, retail shops, public services (e.g. customs and immigration), events, tour operators and guides, and gaming. An overall satisfaction index (or TSI) for the tourism industry in Macao is then estimated based on the sectoral results.

adopted from the American Customer Satisfaction Index (ACSI)

The third is Macau Visitor Profile Survey (VPS)

The VPS shows the trip characteristics, purpose of visit, source of gaining travel information, travel arrangement and activity, spending behaviour, length of stay, source market, etc. of the visitors.

The forth is Macao Human Resource Monitor Survey (MHRM)

There are 4 key variables monitored by the MHRM project over time. These are perceived fairness of compensation and benefits, general job satisfaction, job stress and intent to stay at organizations. All 4 variables are measured along a 5-point Likert scale ranged from 1 (lowest) to 5 (highest). The job changing characteristics include average job tenure and main reasons of changing jobs.

澳旅院四教職員獲國際權威期刊《酒店與旅遊管理》高度推薦論文獎

- [論文 新聞局](#)

A paper about the role of public-private partnership in tourism recovery from covid-19 received highly Commended Paper Awards by JHTM (Journal of Hospitality and Tourism Management)

Why do you want to work at this company?

1. 我很了解你們的研究
2. 我有數學背景, 研究方向可以很快掌握
3. 新的旅遊方式如智慧旅遊和元宇宙旅遊

I am able to pick up research-oriented projects quickly, especially in statistical and machine-learning models. The new forms of tourism, such as metatourism and smart tourism, are rising; most data will be in digital form, and the approaches to collecting data will be diversified. In this situation, programming ability is a power tool.

有甚麼問題

我去註冊帳號為了可以看TCC的報告，但最新的卻是2015年，請問是否最近這幾年的報近如2019年都沒有。 I created an account to view the TCC report, but the most recent is from 2015. Is the TCC project suspended?.

可改善的地方

最近幾年的報告都是DASHBOARD, 可否追加這幾年的可下載的文本報告。 The reports of the last few years are in dashboard format; it is great that we can find and review the downloadable PDF reports of these years.

論述你想做的Project

- [macau daily news](#) 市民對中國農曆新年新馬路任我行計劃 滿意度高, 旅遊局亦透露會將此計劃恒常化。特此可考慮這個方向做一個調查。從不同的角度出發, 如遊客、市民(特別是附近居住的市民)和運輸行業的工作人員,可收集不同的意見如下:
- 舉辦前
 1. 舉辦地點
 2. 舉辦頻率
 3. 舉辦時間
 4. the lack of emergency lanes and other safety-related issues
 5. the government to develop a contingency plan that includes evacuation routes and signage to ensure the safety of residents and tourists.
 - 6.

可以將舉辦前的結果，與旅遊局不同景點的人客量作加權分析，取得舉辦的地點，時間和頻率

- 舉辦後 PCC

1. 舉辦帶來的人流量, 包括機票, 船票等銷售量, 巴士的士的載客量
2. 舉辦帶來各行業的盈利, 增加的客流量 SCC
3. 對涌塞程度、交通、安全、事後垃圾處理/街道清潔, 景點和休閒活動, 等待時間和服務程度等的滿意度(如同TCC)
4. 與同個景點・不同季度・不同景點・相同季度的比較
5. preceived level of crowdedness, satisfaction with quality of the environment, transportation serices , service quality and waiting time at food and beverage as well as retail services.

The public is satisfied with the pilot project of New pedestrian area, and MGTO also revealed that the project will be permanent. However, safety and transportation problems were widely discussed by the public, the government, and lawmakers. Therefore, we can consider this topic for conducting a survey.

This research aims to find the best location for this activity during certain seasons or months. The approach would be similar to that of TCC and would be combined with the MTGO Visitor Flow Forecast.

應聘的專業知識-統計

中心极限定理・大数定律

Central limit theorem for identically distributed independent samples, the standardized sample mean tends towards the standard normal distribution even if the original variables themselves are not normally distributed.

Law of Large Numbers

If the same experiment or study is repeated independently a large number of times, the average of the results of the trials must be close to the expected value

特征值和特征向量的定义

線性迴歸的問題

- [link](#)

概率和似然的分別

- [LINK](#)

Probability is the measure of the likelihood that an event will occur. 概率是对一个事件发生的可能性的度量。 Using the term probability, we calculate how probable (or likely) it is to draw a sample from a given distribution with certain parameters.

probability quantified how probable it is to sample data (x) with certain values from a given distribution given the parameters (w) of the distributio

the likelihood, $L(w|x)$, computes how likely the parameters are given the observed data

第一類錯誤和第二類錯誤分別

Type I error is when you reject a true null hypothesis and is the more serious error. solely on you.

Type II error is when you accept a false null hypothesis.

置信區間

Confidence interval a confidence interval is a range of estimates for an unknown parameter. A confidence interval is computed at a designated confidence level; The confidence level represents the long-run proportion of CIs (at the given confidence level) that theoretically contain the true value of the parameter. For example, out of all intervals computed at the 95% level, 95% of them should contain the parameter's true value.[3]

這裡要特別強調信賴區間的解讀，很多人都會計算信賴區間，例如上面的例題，有些人會把他解釋為“甲候選人的支持度約有 95% 的機率落在(0.539,0.601) 中”，但是這是一個很嚴重的錯誤觀念。我們在上面一直強調我們拿不同的樣本調查算出來的結果可能會不一樣，不能只拿一個樣本來說明，因為只拿一個樣本他算出來的信賴區間已經固定，而母體的 p 也是固定的常數(雖然我們不知道是 多少)，既然都是固定的何來機率之有呢？那要如何解釋呢？正確的說法是對同一事件做調查 100 次(假設)，每次會得到一組數據，將這 100 個信賴區間求出來，在這麼多的信賴區間中， p 約有 95% 的機率落在這些信賴區間中，也就是說大約有 95 個信賴區間會包含參數 p 。

- [link](#)

Confidence Interval

refers to the probability that a unknown parameter will fall between a set of values for a certain proportion of times.

數據分析思維

[link](#)

對未來數據分析方向的發展思維和想法

數據預處理

[link](#)

迴歸分析

- [link](#)

一些統計學名詞解釋

[link](#)

應聘的專業知識-項目管理

應聘的專業知識-人際溝通

新聞

旅遊局客流預測

- [link](#)

新的旅遊政策

- [Macau Daily Week](#)
- [新聞局](#)

Around mid to late February, the Office will reactivate the "Experience Macao, Unlimited" Caravan Roadshow Series across the Greater Bay Area in the rest of the cities including Guangzhou, Jiangmen and Shenzhen. Macao Weeks are also planned to unfold this year.

The MGTO is gearing up for physical promotional activities in international markets, including roadshows, presentation seminars, and familiarization trips in preparation for the return of international tourism.

the MGTO will follow a strategy based on the Southeast Asian countries that have direct flights to Macau to promote an airfare-based subsidy to attract visitors from those countries.

新馬路任我行

[力報](#)

[新聞局](#)

[Macau News](#)

[Macau Daily Week](#)

The Government's "Strolling Through Almeida Ribeiro – Pilot Project for a Pedestrian Area"

"San Ma Lo Pedestrian Area Pilot Project"

旅遊團抵澳

- [Macau Daily News](#)

The long-awaited resumption of mainland tour groups has commenced, with the city welcoming a total of 135 tourists Monday, divided into six tour groups.

澳大經濟預測2023

- [Macau Daily News](#)

復

[link](#)

1. 減免稅務及規費，以減輕企業及居民負擔；
2. 推行中小微企援助及息補貼，以扶持企業存續；
3. 加強民生措施，支援弱勢家庭；
4. 提升技能培訓、實施以工代賑、帶津培訓；
5. 推出電子消費券，

幾乎全部於外出時或在有人的地方戴口罩（96.5%）；比平時多洗手（91.5%）、多清潔消毒家居或工作場所（76.7%）；全部取消或部份取消團體活動或聚會（97.5%）；減少外出（92.7%）。

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