Unveiling the Power of Predictive Modelling in Real Estate

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Abstract

The use of predictive modelling has become an essential tool in the field of real estate, which assists stakeholders in making data-driven decisions and gaining valuable insights into property markets. This report provides an overview of predictive modelling techniques and their applications in real estate, from data collection and pre-processing to model selection and evaluation. By combining domain expertise and advanced analytics, predictive modelling empowers stakeholders to discover hidden trends, anticipate property prices, and mitigate risks. This report uses visualizations and statistical analyses to demonstrate the transformative potential of predictive modelling in shaping the future of real estate.

1 Introduction

In the dynamic domain of real estate, the key to success lies in making insightful decisions driven by data. Predictive modelling has emerged as a game-changing technology that is revolutionizing how we analyze property markets, forecast prices, and identify investment opportunities. This report serves as a gateway to comprehending the transformative potential of predictive modelling in the real estate sector.

Predictive modelling involves utilizing statistical techniques and machine learning algorithms to analyze historical data and make predictions about future trends and outcomes. Its applications in the real estate industry are manifold, ranging from predicting property prices and estimating rental yields to identifying profitable investment opportunities. The potential benefits of predictive modelling in real estate are numerous. By providing accurate predictions and insights, it can help investors and property developers make informed decisions and mitigate risks. Furthermore, it can help streamline the decision-making process, save time and resources, and ultimately lead to better investment outcomes.

In conclusion, predictive modelling is a technology that has the potential to transform the real estate sector by providing valuable insights and predictions. This report provides an overview of predictive modelling in real estate and

its applications, highlighting the potential benefits it offers to investors and stakeholders in the industry.

2 Data Collection and Reprocessing

Gathering real estate data is just the beginning. We dive deep, wrangling messy datasets, purging anomalies, and crafting a pristine foundation for analysis.From property specs to economic indicators, no stone is left unturned in our quest for actionable insights.

3 Model Selection and Evaluation

Welcome to the battleground of algorithms. Linear regression, decision trees, and neural networks vie for supremacy, each promising to unlock the secrets of the market. With metrics like MSE and R-squared as our weapons, we rigorously assess their predictive prowess.

4 Feature Engineering

We're not content with surface-level insights. Armed with domain expertise, we engineer features that reveal hidden truths. Property age, location dynamics, and socio-economic factors—the ingredients of our predictive alchemy, transforming raw data into golden opportunities.

5 Results and Insights

Behold the fruits of our labour: a treasure trove of insights that reshape the real estate landscape. Accurate price predictions, untapped market niches, and risk assessments—all at our fingertips, empower stakeholders to navigate the market with confidence.

6 Visualizing Market Trends

To provide context and engage our audience, let's take a visual tour of real estate market trends. Figure 1 illustrates the fluctuation in property prices over the past decade, highlighting the dynamic nature of the market.

7 Conclusion

In the fast-paced world of real estate, knowledge is power, and predictive modelling is the key to unlocking it. Armed with advanced analytics and a bold

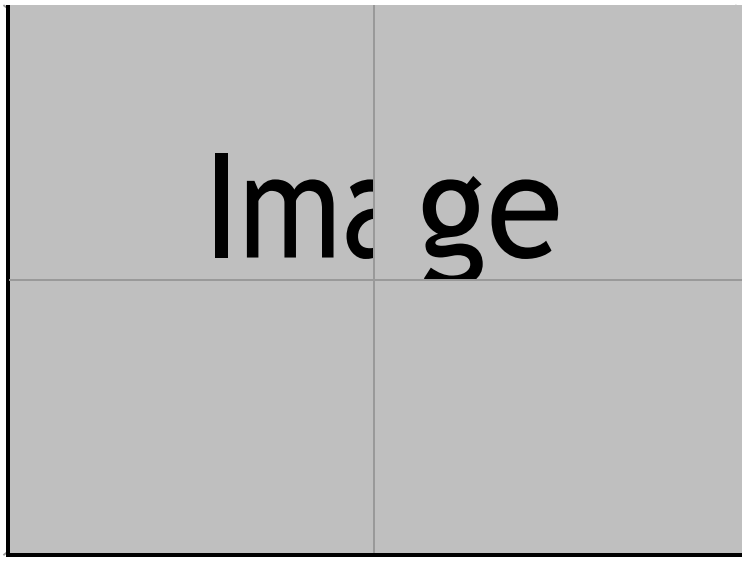


Figure 1: Fluctuation in Property Prices Over the Past Decade

vision, we chart a course toward success, harnessing the potential of data to drive innovation, seize opportunities, and shape the future of real estate.

8 Key Statistics

Let's present some key statistics related to real estate data in a table:

Table 1: Key Statistics in Real Estate Data

Statistic	Value
Average property price	$500,000
Median property size (sq. ft)	2000
Average distance to amenities (miles)	1.5
Average crime rate (per 1000 residents)	15
Median school rating	8/10

The key statistics provide insights into various aspects of the real estate market, such as property prices, amenities, crime rates, and school ratings.

9 Mathematical Equations

Let's incorporate two relevant mathematical equations and reference them in the text:

1. The formula for calculating the mean squared error (MSE) is given:

$$\text{MSE} = \frac{1}{n}\sum_{i=1}^{n}(y_i - \hat{y}_i)^2 \tag{1}$$

where y_i represents the actual values, $\hat{y}_i$ represents the predicted values, and n is the number of data points.

2. Another commonly used metric is the coefficient of determination (R^2), defined as:

$$R^2 = 1 - \frac{\sum_{i=1}^{n}(y_i - \hat{y}_i)^2}{\sum_{i=1}^{n}(y_i - \bar{y})^2} \tag{2}$$

where $\bar{y}$ is the mean of the actual values.

Equation (1) calculates the mean squared error, while Equation (2) computes the coefficient of determination.

10 References

[1] James D. Biggin, *A Guide to Predictive Modelling in Real Estate*. Real Estate Analytics, New York, 2020.

[2] Jake VanderPlas, *Python Data Science Handbook: Essential Tools for Working with Data*. O'Reilly Media, Inc., 2016.

[3] Gareth James, Daniela Witten, Trevor Hastie, Robert Tibshirani, *An Introduction to Statistical Learning: with Applications in R*. Springer, 2013.

MA199 Assignment 4.1: Self-Awareness

12 March 2024 at midday; submit via FASER

Student Registration Number:	2311908
Name of Personal Tutor:	Dr. Alex Diana

Summary

This assignment is worth **20% of your final MA199 module mark**. This assignment is in 5 parts, where each part is worth 5%. You are expected to reflect critically on your own self-awareness in the context of career decisions and planning. High marks will be awarded to candidates who demonstrate a good level of breadth and depth to their responses. Where possible, you should also provide evidence and attempt to quantify/qualify what you write

Your submitted work is expected to be about 2 pages of A4. You may wish to produce the personal profile document in the self-awareness based lesson on Moodle to help you with this (link is available on the MA199 Moodle page)

The text boxes will expand as you write – you don't have to restrict yourself to the space given.

Part 1: In the box below you should **tell your story**. Outline your background, previous education and experiences, values, motivations and give some details about why you are studying your postgraduate course.

My name is Jatin Chandani, and I have a degree in business administration from DAVV University Indore. Even though I studied business, my real passion is in technology, especially software development. To pursue this interest further, I joined a boot camp that specializes in MERN stack development.

This choice led me to a job as a software developer in a startup. For three years, I worked on various projects, improving my technical skills and gaining valuable experience. But as time went on, I found myself more interested in data science.

Understanding the power of data-driven insights, I decided to shift my career towards data science. I believed that combining my tech background with data science knowledge could open up new opportunities for me.

So, I enrolled in a postgraduate program in Applied Data Science at Essex University. This program provides both theoretical knowledge and practical skills, which is exactly what I need to delve into advanced concepts and real-world applications.

I'm pursuing this academic path because I want to keep learning and growing professionally. I'm excited about using data to solve complex problems and make a positive impact in different industries. I also look forward to contributing to research and innovation in data science.

In summary, my background, experiences, and values have led me to study Applied Data Science. I'm determined to use this opportunity to expand my knowledge and skills and to contribute to the evolving world of technology and data.

Part 2: When are you at your best? When are you not at your best? Reflect on when you tend to do well, when you feel motivated and driven. Then think about when you tend to feel drained or demotivated.

I function at my best when I have completed a full cycle of sleep. It is important for me to stay motivated throughout the day, so I maintain a list of pending tasks and prioritize them based on their urgency and importance. I try to work on my tasks when I am most efficient. However, during times of mental stress or exhaustion, I tend to feel drained, and my concentration levels significantly decrease. Therefore, I believe it is crucial to take a break and engage in activities such as socializing with friends or resting to regain my motivation and focus.

Part 3: What do you consider to be your **strengths?** What do you consider to be your **weaknesses?** Explain your answers - what made you choose these and in what ways do your strengths and weaknesses come out?

I possess diverse strengths including analytical thinking, accelerated learning, and strong retention capabilities. One strength of mine is critical thinking, which empowers me to solve problems efficiently and accurately. Furthermore, I have a remarkable memory that facilitates my ability to retain new information. However, I face challenges with time management and am often vulnerable to distractions, which adversely affects both my academic and personal life.

Part 4: Consider your values, motivations and interests (in your personal and professional life) Identify your **3 most important ones** and outline why you chose them and how they impact upon you.

My core values are integrity and being of service to others. I am consistently motivated to uphold the principles of honesty and transparency while providing constructive criticism to others, ensuring that my feedback is beneficial to them. I proactively search for opportunities that enable me to grow and enhance my skills, as I recognize the value of self-improvement. Within the limits of my capability, I endeavor to assist others because I believe that by doing so, they are more inclined to reciprocate that help in the future. As previously stated, I strive to elevate my competencies whenever possible by learning from my previous errors and evading them in the future.

Part 5: What have you learnt from your answers in Part 1-4? How might this inform your plans for the future, your time at Essex or the actions you might need to take to get to where you want to be?

The act of introspection, wherein one reflects on their values, motivations, interests, and aspirations, can serve as a valuable means of gaining insight into one's personal and professional goals. By establishing a clear understanding of their core values, individuals are better equipped to make deliberate decisions, ensuring that their actions remain consistent with their beliefs. Moreover, studying one's motivations and interests can facilitate the identification of potential career paths or personal objectives that align with their passions and values, thereby enabling the development of precise and achievable goals that align with their values and interests. In so doing, individuals can influence their future by setting themselves on a path towards personal and professional fulfillment. For instance, individuals who prioritize honesty and compassion may seek out job opportunities or volunteer work in the social justice or medical fields. In my case, while in Essex, I plan to participate in various societies and clubs, with the aim of building a robust network of individuals who share my interests and values.

MA199 Assignment 4.2: Opportunity Awareness

12 March 2024 at midday; submit via FASER

Student Registration Number:	2311908
Name of Personal Tutor:	Dr. Alex Diana

Summary

This assignment is worth **20% of your final MA199 module mark**. For this task, you need to independently explore and research job roles and job sectors to investigate the graduate labour market. This includes both job roles where a Maths degree is essential, as well as those careers where a Maths degree is useful or can be an advantage. Using the information gathered for your self-awareness assignment you will personalise your research and assess your current labour market position.

This assignment can also be adapted to explore PhD and research opportunities (such as KTPs and operational research), including an evaluation of PhD programmes.

The following events and resources may be useful for this task:

- Careers Centre (including online resources at www.essex.ac.uk/careers)
- Seminar slides on Moodle
- IMA Maths Careers website: http://www.ima.org.uk/careers.cfm
- Prospects website: https://www.prospects.ac.uk/

For this assignment you will need to do your own personalised and independent research and then undertake the following tasks:

1. Research job profiles and identify one role that interests you and is appropriate to pursuing a career in a Maths-related area.

2. Identify a second job profile that interests you, where a Maths postgraduate degree is not essential, but would give you an advantage.

3. Pick one of the above job profiles and explain in detail what this job involves and the skills needed for success. Reflect on the extent to which you meet the skills requirements for the role.

4. Investigate a job sector that you would like to find out more about. For this sector, explain three key trends in the sector and identify three companies or organisations recruiting in this sector.

In all cases you must explain where you get your information from.

The word counts are for guidance only and you will not be penalised for going over / under as long as all relevant information is included.

The text boxes will expand as you write – you don't have to restrict yourself to the space given.

Section 1 – Identify a job role that interests you and is appropriate to pursuing a career in a Maths-related area

In the box below you should outline the results of your research into a Maths related job role.

You must explain the sources where you get your information from. *(Word guide – 50 words for each heading.)*

1. **Job Role:** Data Analyst

2. **Typical duties and responsibilities:** Data collection, Analysing the data, data visualization, data cleaning, statistical analysis, presenting the data analysis.

3. **Entry Qualifications:** Bachelor's degree in STEM and some coding knowledge (Python, R, SQL) or master's degree in STEM.

4. **Skills, qualities and attributes required for the role:** Problem solving, analytical thinking, statistics and probability, Coding knowledge of Python, R and SQL.

5. **Professional Development/professional examinations:** Microsoft Azure Data Scientist Associate (DP-100) Professional Certificate: This Professional Certificate is designed for data scientists who already have knowledge of Python and machine learning frameworks such as Scikit-Learn, PyTorch, and TensorFlow, and who want to develop and manage machine learning solutions in the cloud. The certificate course focuses on teaching learners how to create comprehensive solutions in Microsoft Azure.

Sources of information: Coursera**,** Indeed.com, Reed.com, OpenAI

Section 2 – Identify a job role that interests you where Maths is not essential but would give you an advantage

In the box below you should outline the results of your research into a job role where Maths is not essential but would give you an advantage.

You must explain the sources where you get your information from. *(Word guide – 50 words for each heading.)*

1. **Job Role:** **Event Planner**

2. **Typical duties and responsibilities:** Liaising with clients to understand their needs and budget, selecting venues, booking vendors, and finalizing logistics, creating a detailed budget, and managing event finances, developing a timeline and schedule for the event, coordinating with vendors, and ensuring all aspects run smoothly on the event day.

3. **Entry Qualifications:** A bachelor's degree in a relevant field like Hospitality Management, Event Management, Marketing, or Business Administration is preferred by many employers but not always mandatory.

4. **Skills, qualities and attributes required for the role:** Exceptional organizational skills, Strong communication and interpersonal skills, Creativity and problem-solving abilities, The ability to prioritize tasks and manage multiple projects simultaneously, Attention to detail and a high degree of accuracy.

5. **Professional Development/professional examinations:** **Event Planning Certificate Programs**

Sources of information: Google, Indeed.com

Section 3 – Explore the extent to which your self-awareness of skills meets the requirement of the job opportunity (matching self-awareness to opportunity awareness)

You should choose either the job role identified in Section 1 or the Section 2 job role and explain in detail the skills, quality and attributes needed for success in the role. Revisit assignment 4.1 Self Awareness and reflect on the extent to which you meet the skills requirements for this role.

You must explain the sources where you get your information from.

(Word guide – 200-300 words in total)

1. Job role being investigated: Data Scientist

2. Skills, qualities and attributes needed for success in the role: Problem-solving, analytical thinking, statistics and probability, Coding knowledge of Python, R and SQL.

3. Reflection on the extent to which you meet the role requirements: It is imperative for me to enhance my coding skills to pursue a career as a data scientist. Akin to programming, mathematics is also a crucial component in the field of data science. Therefore, I am committed to augmenting my mathematical proficiency. Given my ability to think analytically and solve problems, I am confident that I will be able to grasp the requisite skills to carry out my duties effectively as a data scientist. The role of a data scientist entails managing and analysing large datasets, which requires a sharp and confident mind. A strong foundation in mathematics is also necessary to excel in this field. Therefore, having a basic understanding of statistics and probability can be instrumental in achieving success in the realm of data science. At present, I am dedicated to honing these skills to become a successful data analyst or data scientist.

Sources of information: Indeed.com, OpenAI

Section 4 – Investigate a job sector you would like to know more about

For this sector, explain three key trends in your chosen sector and identify three companies or agencies recruiting in this sector.

(Word guide – 200-300 words in total)

1. Job sector being investigated: Cybersecurity

2. Three key trends in this sector:

3. Three companies or agencies recruiting in this sector:

Sources of information:

MA199 Assignment 4.4: Transition Learning

12 March 2024 at midday; submit via FASER

Student Registration Number:	2311908
Name of Personal Tutor:	Dr. Alex Diana

Summary

This assignment is worth **20% of your final MA199 module mark**. You are required to search out and find a real postgraduate level job, or postgraduate level training, or further postgraduate study, that you would be interested in applying for, complete the application form and/or write an updated CV and covering letter (making them specific to the position in question), attend an interview, and then reflect on the whole application process.

There are four parts to this assignment:

- You must first search out and find the position or postgraduate programme you are interested in. You then need to provide evidence of this position or programme (it must be a real position at postgraduate level or equivalent and a real postgraduate programme). Examples of 'evidence' would be a copy of the job advert, details of the course and institution you are applying for, etc. Note that the postgraduate level position is interpreted in a broad sense and it is fine to include (for example) details of a PhD course you are applying for. You should also write a short reflective statement explaining why you are interested in this position or programme.

  (Part i mark is worth 5%)

- You should provide a copy of the application form that you have prepared (if the position or programme has one; a screen grab or picture is fine for this if it is an online form) or alternatively, an updated copy of your CV and a covering letter (adapted and made relevant for this particular position or programme of study).

  (Part ii mark is worth 8%)

- You should attend a postgraduate level interview and briefly reflect on how you feel you did and what you learnt from the experience. Note that the interview needs to be at postgraduate level but does not necessarily have to be directly linked to the job application in parts i) and ii) if this is not possible.

  (Part iii mark is worth 5%)

- You must write a final short reflective statement about the whole application experience, explaining what was difficult (or easy) and what you would do differently in the future.

  (Part iv mark is worth 7%)

IMPORTANT NOTE – you do NOT have to do all these tasks from scratch. If you have already completed a job application or had an interview this year then you can include these experiences in your assignment (as long as the position or programme is a postgraduate level one). Similarly, you don't actually have to have applied for the position in question in reality, as long as you prepare an appropriate application that could be used for this purpose (although if you have done all the work, why not apply anyway?)

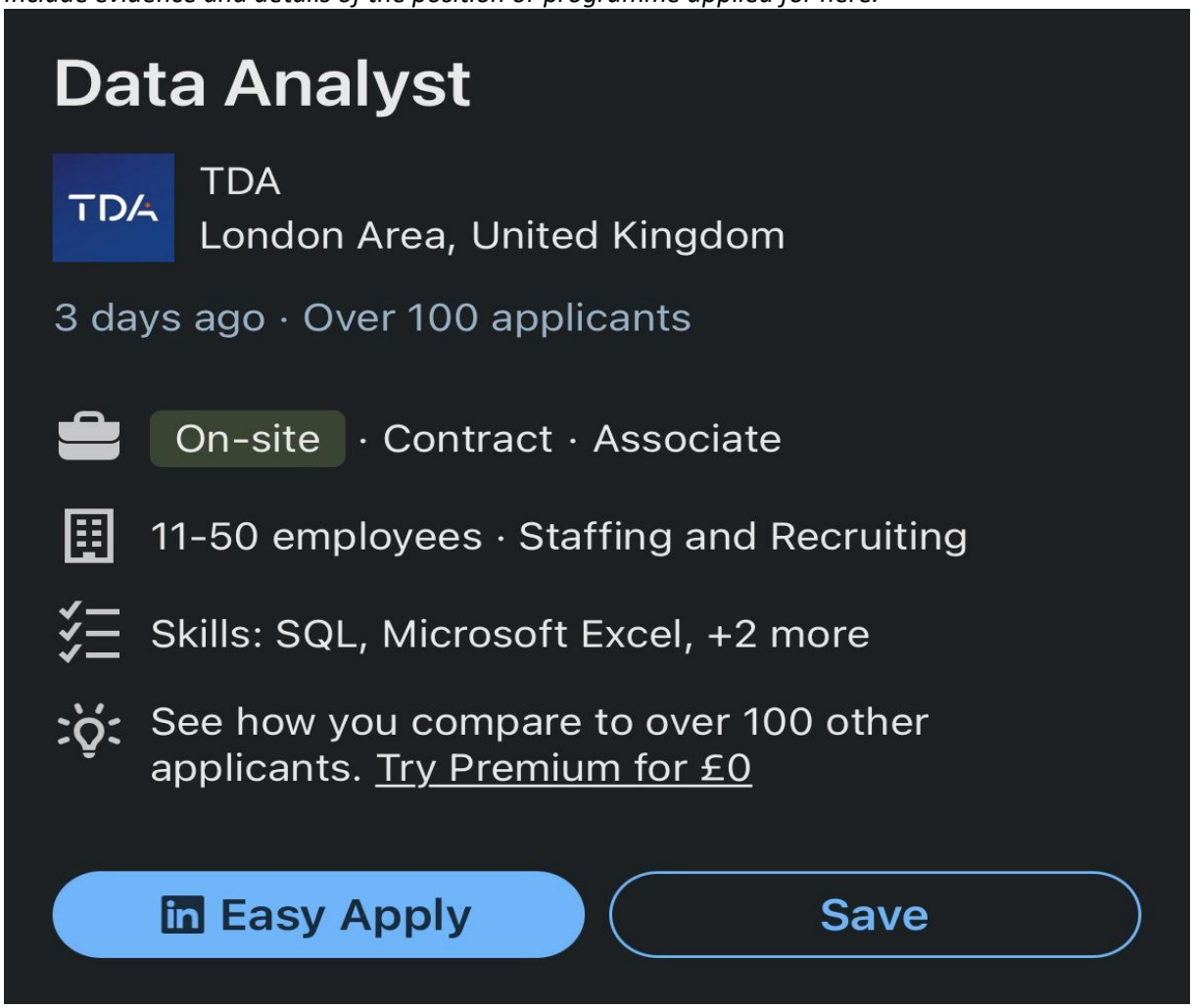
If you have not attended an interview for a postgraduate level position yet then you can use the Interview360 system on CareerHub+ where you can set up a virtual interview to test yourself.

Note that you do not have to restrict yourself to the space available in each box of the template (you can expand these or add additional pages to include pictures or pages from your CV for example). Similarly, the word counts mentioned are guides only – you will not be penalised if you write slightly more or if you make all the key points required using less words.

Part i) Evidence and Motivation for Postgraduate Level Position (5%)
In section A you should provide details of the postgraduate level position or postgraduate programme applied for and the date you saw the advert or made the application. This could be a screen grab or picture of the job advert, details of the course applied for, or simply a description of the position and the details of the company. Note that the position must be at postgraduate level!

A:

Include evidence and details of the position or programme applied for here.



In section B you should write a short statement explaining why you are interested in this position or programme and why you are applying for it (*guide – 100 words*).

B:

Include a brief reflective statement as to why you are interested in and applying for this position or programme.

Key Responsibilities:

- Data Analysis: Utilize advanced Excel, PowerBI, SQL, or Python skills to analyze large datasets, extract meaningful insights, and present findings to stakeholders.
- Insurance Expertise: Apply deep knowledge of the insurance market, specifically Syndicate or Insurance Broker operations, to interpret data and support the development of our Insurance Binder Tool.
- Data Management: Collect, clean, and maintain data from various sources, ensuring data accuracy, consistency, and completeness.
- Reporting: Create and maintain dashboards and reports using PowerBI or similar tools to provide actionable insights to the team and clients.
- Binder Tool Support: Collaborate with cross-functional teams to enhance and optimize our Insurance Binder Tool, aligning it with industry standards and best practices.

Qualifications

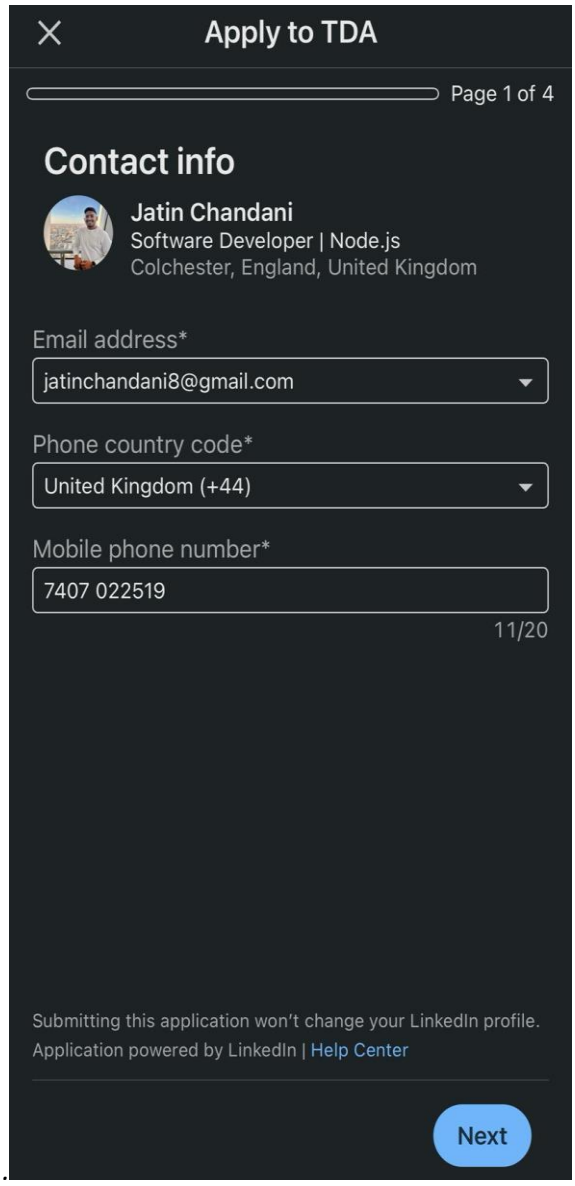
- Bachelor's degree in a related field (e.g., Data Science, Business Analytics, Finance, Insurance).
- Proven experience as a Data Analyst with a focus on insurance, preferably in Syndicate or Insurance Broker operations.
- Advanced proficiency in Excel, PowerBI, SQL, or Python.
- Strong data modeling and data visualization skills.
- Exceptional analytical and problem-solving abilities.
- Excellent communication and collaboration skills.
- Attention to detail and ability to work in a fast-paced, dynamic environment.
- Understanding of insurance binding processes is a strong asset.

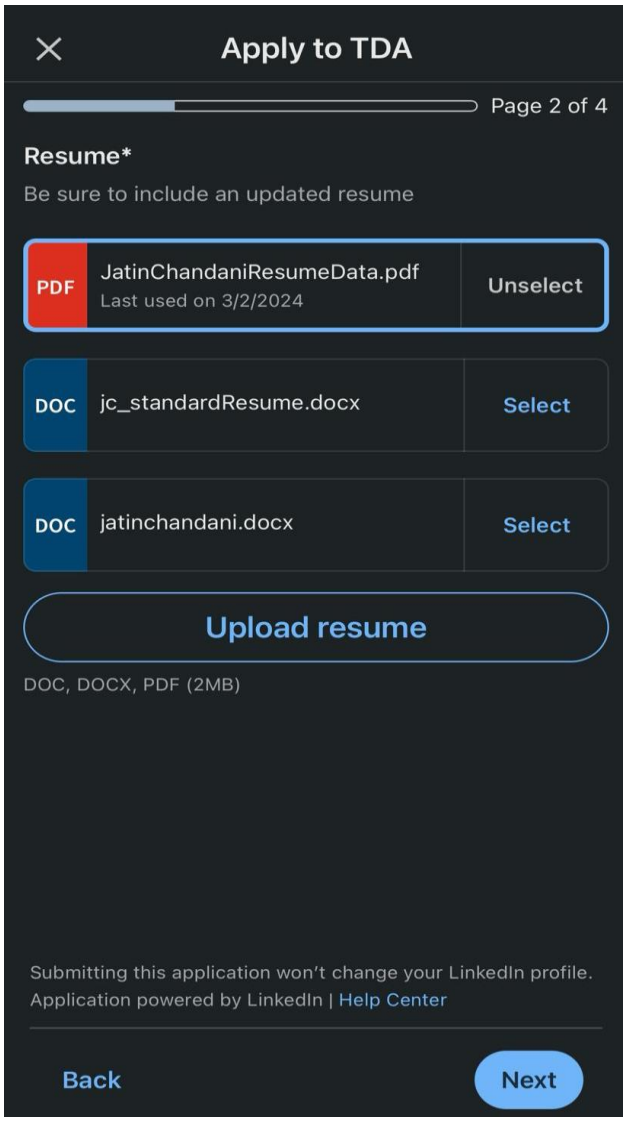
Part ii) Application (8%)

In this section you should provide the documentation you used to apply for the position or programme. This can include an online application form (e.g. use the 'print screen' button in Windows to create a screen-grab of the form) or an updated CV and cover letter made specific to the position or programme you are applying for.

You do not need to enter your application details in the box below – you can also insert additional pages into this document if this is easier.

Application documents here or insert as additional pages




Apply to TDA
Page 2 of 4
Resume*
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Part iii) Interview (5%)

In section A you should provide details of the interview that you have undertaken. This should be at postgraduate level but doesn't necessarily have to be directly linked to the job application in part i) and ii) (although this is preferable). You should give details of the date, location, who the interviewers were and details of some of the key questions you were asked.

A:

Provide details of the interview here (date, location, interview, key questions asked).

I gave an interview for the role of Data Analyst at TDA 07/03/2024. The Interview was online through a Z*oom* meeting.

The i*nterviewer* was the data science lead from TDA. *The questions were:*

- Introduce yourself.
- Why are you interested in this role?
- Explain the project mentioned in the CV.
- Projec*t-based Questions*
- One Leetcode medium problem
- Explain the current trends in the machine learning domain.
- Any Questions to me

In section B you should write a short statement explaining how you feel the interview went and what you learnt from the experience (*guide – 100 words*).

B:

Include a brief reflective statement about how you found the interview process and what you learnt.

I found the meet to be small challenging as I had not arranged well for the same. I was a bit occupied when the meet was going on since I knew that I was not arranged well. The address from leetcode was exceptionally troublesome for my level of arrangement and I may not give the arrangement for the address, but I attempted to clarify the issue and arrangement to the questioner, and he was exceptionally supportive within the entirety prepare. From this encounter, I have learnt that difficult work and legitimate arrangement is the key to break the interviews. So, I would like to work difficult and get ready legitimately for the up-and-coming interviews. I will begin to unravel the Leetcode issues which are exceptionally common in coding interviews and specialized rounds of internships. By understanding the Leetcode issues, I can pick up the issue fathoming abilities and create sense of different data structures and this may offer assistance me to organize the information more effectively amid my proficient career residencies.

Part iv) Reflective Statement about the Application Process (7%)

In the following section you should write a reflective statement about how you found the whole application process. Questions to think about include: Were you successful with your application (and if not, why do you think this was)? What did you learn from the process? Did you get any feedback from the prospective employer, interviewer or postgraduate provider? What do you think went well (and not so well)? Would you do anything differently with other applications in the future? How does this experience help with your future career planning?

(*guide - 250 words*)

A:

Include a reflective statement about your application experiences and what you learnt.

I gave the meet for the part of Data Analyst at TDA on 07/03/2024. The Meet was online through a zoom assembly. I did not clear the meet. I was not fruitful since I was not arranged altogether for the meet. I was a bit occupied when the meet was going on since I knew that I was not arranged well. The address from leetcode was exceptionally troublesome for my level of planning and I may not give the arrangement for the address, but I attempted to clarify the issue and arrangement to the questioner, and he was exceptionally accommodating within the entirety handle. From this encounter, I have learnt that difficult work and appropriate arrangement is the key to break the interviews. So, I would like to work difficult and get ready legitimately for the up-and-coming interviews. I will begin to fathom the Leetcode issues which are exceptionally common in coding interviews and specialized rounds of internships. By fathoming the Leetcode issues, I can pick up the issue fathoming abilities and create sense of different data structures and this may help me to organize the information more effectively amid my proficient career residencies. This encounter would help me to be more arranged for the following openings which come by my way.

MA199 Assignment 4.3: Decision Learning

12 March 2024 at midday; submit via FASER

Student Registration Number:	2311908
Name of Personal Tutor:	Dr. Alex Diana

Summary

This assignment is worth **20% of your final MA199 module mark**. For this task, you should create a realistic and achievable career and professional development plan, narrowing down a broad range of potential job roles to more focused goals. You should identify two goals: one career-related and one professional development goal and specify the actions necessary to help you achieve these goals. Each action in your development plan should be prepared using SMART objectives to help you accomplish your goals.
.
The following resources are useful for this task:

- Seminar slides on Moodle
- 'Career Action Planning' course on Moodle

For this assignment you will need to do your own personalised and independent research and then undertake the following tasks:

1. Identify one career-related and one professional development goal.
2. For each goal identify a number of specific actions you can take to work towards your goal.
3. Set SMART objectives for each action using the template below.

In all cases you must explain where you get your information from.

The text boxes will expand as you write – you don't have to restrict yourself to the space given.

1. **Career-related goal: (for example, exploring a specific job role or sector): Data Scientist**

2. **Overall target date for achieving this goal: Dec 2024**

3. **Sources of information:**

What are the Specific actions I need to take to achieve my goal?	**What will my Measurable success criteria be?**	**What support or resources will I need to Achieve this action?**	**How is this Relevant to my future career plans?**	**What is the Target date for accomplishing this action?**
Developing skills in data analysis and programming	*Building a portfolio of data analysis projects that demonstrates the proficiency. in programming and data analysis techniques.*	*Online Courses from Coursera/Udemy.*	*Learning programming skills is the first step to become a data scientist.*	Dec- 2024
Hands-on experience with data.	*Contributing to open source data science projects or creating open-source tools or libraries.*	*Access to numerous datasets to practice and knowledge of data analysis tool.*	*By doing Hands-on work, I get to familiarize with the tools and technology*	Dec- 2024
Learning Data visualization	*Completing data visualization projects that involve designing, implementing, and refining, visualizations to answer, specific questions or solve, real-world problems.*	*Access to data visualization tools like Tableau, Power BI, and Google Data Studio to practice.*	*Data visualization is a key part of becoming a data scientist because the analysis should be presented in a tidy manner.*	Dec- 2024
Practicing more problems	*Successfully solving data science problems on various platforms such as Kaggle, Hackerrank, or LeetCode.*	*Leetcode account or hackkerrank account*	*By practicing more problems, I can get to know the real problems that we get during the professional time.*	Dec- 2024

Familiarizing with Big data	*Increasing the knowledge of big data technologies and tools by completing online courses or certifications from reputable providers.*	*Access to platforms like Hadoop, Spark, or Apache Cassandra to practice your big data skills.*	*Big data is currently buzzing trend in the world of data science and it is very important*	Dec- 2024

1. **Professional development goal: (for example, improve my oral communication skills): Leaders**
2. **Overall target date for achieving this goal: May 2024**
3. **Sources of information: Google search and Udemy**

What are the Specific actions I need to take to achieve my goal?	**What will my Measurable success criteria be?**	**What support or resources will I need to Achieve this action?**	**How is this Relevant to my future career plans?**	**What is the Target date for accomplishing this action?**
To read books related to leadership.	*After completion of reading the books*	Books, eBooks	This *skill will help me to become a good manager.*	May-2024
Taking online courses.	*After completion of the course*	*Access to Udemy/ Coursera*	*Certificates will always help to prove.*	May-2024
Starting a small business	*By starting a business, you get to work for yourself as*	*Initial investment and a guidance*	*Can be key point in the portfolio.*	Dec-2024

	well as you need to manage your employees			
Asking feedback	*Being critically earful*	Experts	*As a good leader, we need to ask the feedback from people who we are managing.*	*Continuous learning*
Improve listening skills	*Being patient and listening to others when they are speaking*	None	*A manager should be a good listener.*	*Continuous learning*