



SCHOOL OF  
COMPUTER SCIENCE  
AND ENGINEERING

# Final Year Project

## Research Project Submission Form

### Section 0: Applicant's info

Applicant's Full Name: Kelvin Rushbrook

Applicant's University ID number: W18984891

University Email Address: w1898489@westminster.ac.uk

Select your level of study: Undergraduate

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### Section 1: Project Info

1.1. Supervisor's Full Name: Saumya Reni

1.2. Supervisor's Email Address: S.Reni@westminster.ac.uk

1.3. Project Title: Job Market Trends Dashboard

1.4. Please provide a description of the background with references to relevant literature (250 words):  
The UK technology job market is an ever-evolving industry, influenced by factors such as remote working, new technologies, the economy and the education sector.

For people looking to work in technology, they need to understand these factors and how they affect trends in job postings.

This includes knowing about in-demand skills, salary expectations, job locations and more.

"Jobs often require employees to apply a wide range of skills in their work. Understanding how these skills relate to one another is important for identifying how employees may be more or less able to carry out their jobs or find new ones" (Djebali et al., 2023).

#### References:

Liu, Z., Clarke, J.M., Rohenkohl, B. and Barahona, M. (2025) Patterns of co-occurrent skills in UK job adverts. PLOS Complex Systems Available at: <https://doi.org/10.1371/journal.pcsy.0000028> [Accessed 15 Oct. 2025].

1.5. Please provide a brief description and the aims of your study (250 words): This project aims to create an interactive dashboard that visualises important job market trends across the UK.

The dashboard will create insights from real world job postings , both current and historical, and analyse user CVs in order to help users visualise appropriate trends across job postings and how jobs may change over time.

It will also help to analyse trends in order to determine what is currently required to do well in today's job market.

It will allow users to upload a CV for analysis and recommendations on appropriate job postings

**1.6. Please outline the design and methodology of your study and details of any invasive or intrusive procedures (400 words):**

This method will consists of the following key phases:

**1. Business Understanding:**

The main objective is to identify and visualise patterns within the UK job market, including demand and historic trends based on particular roles, skills, salary expectations and the evolution of remote work opportunities.

**2. Data collection and understanding**

Data will be collected from publicly available online job postings, primarily through the Adzuna API (if access is granted) , or through open data sets such as Indeed.

No personal, confidential or sensitive data will be used. The data will contain job posting information such as job titles , regions, skill types , salary ranges.

**3. Data preparation**

All datasets will be cleaned and standardized using Python libraries like Numpy or Pandas.

This will include removing duplicate data , handling null data , and data transformation.

Prepared data will be stored in a structured way , such as an SQLite database or CSV files until needed by the application.

**4. Modelling / Analysis**

EDA will be done using Python and Python visualisation tools such as Seaborn or Matplotlib.

Statistical analysis and either clustering or classification techniques may be used to identify job categories or noticeable patterns , depending on the data suitability.

**5. Deployment and Reports**

Findings will be presented through an interactive dashboard such as Streamlit , enabling users to explore trends themselves , with filters like skills , salary , job region , job demand.

This dashboard won't collect or display any user data , only publicly accessible job data.

A final report will also be created to detail the methods , data handling process and findings.

No invasive procedures will be used and all data used will be from publicly available data sets.

**1.7. Project Start Date:**

2025-10-15

**1.8. End Date of Work:**

2026-07-30

## **Section 2: External Factors**

- 2.1. Does your research include funding from an external organisation and/or external collaborator/s or co-Investigator/s?: NO
- 2.2. Are you seeking ethical approval from the Health Research Authority (HRA)?: NO
- 2.3. Are you seeking University sponsorship (as defined by Health Research Authority)?: NO
- 2.4. Are you seeking ethical approval from any other external organisation (which is not the Health Research Authority)?: NO
- 2.5. Have you been asked by an external organisation to produce evidence of ethical approval for your research?: NO
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## **Section 3: Participants**

- 3.1. Does this research proposal (as proposed to Research Ethics Committee in its current status) include Research Participants (humans and/ or animals, either deceased or alive)?: NO
- 3.2. If your research fieldwork (virtual or in person) will not be carried out on University premises, please state the location of your research.: NA
- 3.3. Human participants in Health and Social Care settings?: NO
- 3.4. Human participants who may be deemed vulnerable due to their setting(s)?: NO
- 3.5. Expectant or new mothers?: NO
- 3.6. Refugees or asylum seekers or recent migrants?: NO
- 3.7. Minors (under the age of 18 years old)?: NO
- 3.8. Participants in custody (e.g. prisoners or arrestees)?: NO
- 3.9. Participants who may potentially fall under the remit of the Mental Capacity Act?: NO
- 3.10. Are animals (or animal tissue) involved?: NO
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## **Section 4: Risk of harm**

- 4.1. Will any pain or more than mild discomfort result from the study?: NO
- 4.2. Could the study induce any psychological stress or anxiety or cause harm or negative consequences beyond the risks encountered in normal life?: NO
- 4.3. Will the study involve prolonged or repetitive physical or psychological testing of human participants that may put someone at risk, e.g. use of treadmill?: NO
- 4.4. Will the study involve raising sensitive topics (e.g. sexual activity, drug use, revelation of medical history, bereavement, illegal activities, etc.)?: NO

- 4.5. Does your work involve relevant material, defined by the Human Tissue Act as material other than gametes, which consists of, or includes, human cells. In the Human Tissue Act, references to relevant material from a human body do not include: (a) embryos outside the human body, or (b) hair and nail from the body of a living person. <br>Work falling under the Human Tissue Authority.: NO
- 4.6. Will DNA samples be taken from human participants?: NO
- 4.7. Does your study raise any issues of personal safety for you or other researchers or participants involved in the project (especially relevant if taking place outside working hours or off-site e.g. not on University premises)?: NO
- 4.8. Does your study involve deliberately misleading the participants (e.g. deception, covert observation?): NO
- 4.9. Does your work involve administration of a food or non-food substance of a different type from or in abnormally higher or lower amounts than normal or one that is known to cause allergic reaction(s) or potential psychological stress?: NO
- 4.10. Does your study involve issues relating to personal and/or sensitive data?: NO
- 4.11. Does your research involve any 'security sensitive material? See Universities UK Oversight of Security Sensitive Research Material (2019).: NO
- 4.12. Does your research ethics proposal include off-site (i.e. not on University premises) research fieldwork and travel involving face to face interactions?: NO
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## **Section 5: Information to participants**

- 5.1. Will you provide participants with a Participant Information Sheet prior to obtaining informed consent?: YES
- 5.2. Will you describe the procedures to participants in advance, so that they are informed about what to expect?: YES
- 5.3. Will you obtain informed consent for participation (normally written?): YES
- 5.4. Will you tell participants that they may withdraw from the research at any time and for any reason?: YES
- 5.5. Will you give participants the option of omitting questions they do not want to answer?: YES
- 5.6. Will you tell participants that their data will be treated as confidential and that, if published, it will not be identifiable as theirs?: YES
- 5.7. Will you offer feedback to participants at the end of their participation, upon request (e.g. give them a brief explanation of the study and its outcomes?): YES
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The applicant confirmed and agreed the following statements:

- The information I have given on this form is true, complete and to the best of my knowledge correct.
- They have read the University's Code of Practice Governing the Ethical Conduct of Research.
- The information provided on this form is subject to the Data Protection Act 2018, General Data

Protection Regulation (GDPR) 2018 and the Freedom of Information Act 2000.

- This form may be disclosed as a result of a GDPR Subject Access Request.
  - This form may be disclosed as a result of a request for information under the Freedom of Information Act 2000.
  - They must ensure that any subjects selected for study are made aware of their rights and our obligations under the Data Protection Act 2018 and General Data Protection Regulation (GDPR) 2018.
  - They must ensure that sponsors are made aware that the University of Westminster is subject to the Freedom of Information Act 2000.
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Applicant's signature



Date: \_\_\_\_\_

20/10/2025

Supervisor's signature



Date: \_\_\_\_\_

17/12/2025

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This form was completed and submitted by the applicant [ Kelvin Rushbrook ] on Wednesday 15 Oct 2025