UNIVERSITY OF WESTMINSTER

SCHOOL OF COMPUTER SCIENCE AND ENGINEERING

Final Year Project

Research Project Submission Form

This application requires the PART B!
The supervisor should revise this application and submit it through VRE for further assessment.

Section 0: Applicant's info

Applicant's Full Name:	Stirling James Idle
Applicant's University ID number:	w19796028
University Email Address:	w1979602@westminster.ac.uk
Select your level of study:	Undergraduate

Section 1: Project Info

1.1. Supervisor's Full Name:	Olivier Moullard
1.2. Supervisor's Email Address:	O.Moullard@westminster.ac.uk
1.3. Project Title:	A precise AI model to accurately diagnose health related issues
1.4. Please provide a description of the background with references to relevant literature (250 words):	There are many different diseases ranging from A - Z which can have ever lasting effects on not only the patient's life but of those around them. Some people may not know how to communicate clearly or may not wish to actually speak to their GP or Doctor with fear of talking about how they feel (especially males) or they might feel as if they are wasting their time altogether. This project attempts to make a more streamlined and friendly approach to talking about how you feel to someone or something which has the ability to help you. This application that I will develop will follow a very similar UI design to that of many generative/ open AI resources such as ChatGPT, DeepSeek, Google Gemini and Claude, this is because many people are familiar with how the design and the overall process of working with these systems are. They user will enter their symptoms via onscreen prompts, then the AI model will analyse the response and send an appropriate response back including a list of potential medication or

	treatments available to the patient. The AI model that I will develop is also based upon Generative AI, which means it will be able to generate text and images, so that the user can understand in more depth and context what they need to do, how they need to do it and exactly how many times a day they need to take their medications. Furthermore, as this is an AI that will be used to help treat diseases, the AI model needs to be accurate more time then not to help keep people healthy and make sure people are taking the required amount at the right time. Which means it will use the Machine Learning algorithm 'Linear Regression' which is used to make predictions based upon data that is analysed and then plotted along a scatter graph to view.
1.5. Please provide a brief description and the aims of your study (250 words):	The primary goal of this project is to develop an accurate AI Model which utilises machine learning algorithms such as Linear Regression & supervised Learning, as well as generative AI to help generate a human like response for the patient and health care professional and to generate an image of any implications to the patient. The project aims to improve on the accurate representation of information represented to the patient by using machine learning techniques to improve on the search algorithms which are used to predict the most likely outcome by looking through every possible sequence and choosing which one would most likely happen, using alpha- beta pruning to eliminate branches of the tree which won't affect the final decision.
1.6. Please outline the design and methodology of your study and details of any invasive or intrusive procedures (400 words):	I order to make sure that the development process is as streamlined and straight forward as possible, I have developed a Gantt Chart which clearly outlines the development process ranging from Initialisation - Evaluation with clear start and end dates for the project, making sure I have enough time to complete tasks so that no task's time frame overlap with preceding or successive tasks to help complete the project in a timely manner. I have made sure to complete necessary tasks at least 3-4 days a week ensuring tasks are complete and not left behind, which helps prevent any unforeseen or seen events such as other modules' coursework & in class tests or family commitments that may arise in the future. In addition, my project is following the Waterfall software development procedure which stipulates that all successive steps of the project must be completed before moving on to the next step. This means that any bugs which are found in the development/design phase will be found before they become to big to handle in the future and also when the project is published for the public use. Also, using the waterfall method ensures that all steps are completed before the publish phase including; Requirements, Design, Implementation, Testing, Deployment & Maintenance. Furthermore, going back to the Gantt Chart, it clearly displays the percentage to how much of the task has been completed, an example being the first section (Initiation) has been set to 100% and they remaining sections are below 100% as they are in the current development phase but will increase as the project progresses over time.

	Furthermore, as stipulated in the Gantt chart, the first step is define the problem which was completed via the PPRS where I was able to think thoroughly on to make sure I knew exactly what my project is going to be and how the use of AI has been used in industry sectors such as Healthcare, the initiation phase also includes sections such as; Define aims and objectives, Conduct a background search, List Tools, including software and hardware, Create use cases and diagrams, all of which are needed first to address what the problem is and how it will be implemented. The next phase includes the Planning and design section which includes; Creation of a Gantt Chart, Signed Ethics Form, Create UI/ UX diagrams, Create a structed storyboard & Finalise planning ideas, all of which are crucial steps as they all cover how the overall application will look like to the user. The next phase includes the Execution phase, which includes; Begin coding, which is probably the most important part as without code, the program wont be able to function properly or at all, next was making sure the code is stored safely, mainly using version control such as GitHub, the next was testing the code which means to test it by manually inputting data, i.e. prompts to the AI Model. The last section of the Gantt Chart is labelled as Evaluation, which means to get feedback from my supervisor or someone else who could tell me what to improve on.
1.7. Project Start Date:	2025-10-29
1.8. End Date of Work:	2026-04-13

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)?:	YES
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

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	None to mention

University premises, please state the location of your research.:	
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

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. 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?:	YES
4.10. Does your study involve issues relating to personal and/or sensitive data?:	YES
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

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

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.

Applicant's signature

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Date: _____

Supervisor's signature

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Date: _____

This form was completed and submitted by the applicant [Stirling James Idle] on Monday 10 Nov 2025