Physical Sciences Ethics Committee

CS Fast-Track Ethical Approval Form

How to Use This Form

You can make a copy of the form for editing through `File > Make a copy`. The copy then can be shared between the student and the advisor and collaboratively filled online. If you prefer to fill the form offline, the file can be downloaded through `File > Download` in a variety of formats including Microsoft Word (`.docx`) and OpenDocument Format (`.odt`). Finalised forms can then be exported as PDF through `File > Download` and submitted following the guidance on submission.

Notes before You Start

It is strongly recommended that you consult the guidance on the [CS Ethical Approval webpage](). Non-compliance with the available guidance will lead to delays in the approval process.

This fast-track form is for **taught students** only. The form needs to be filled by the student and their advisor (or module leader if the project is a module assignment).

Research students and staff must complete the Full Ethical Approval Form found in the [CS Ethical Approval webpage]().

Students: You need to discuss the ethical considerations of your project with your project advisor (or module leader if the project is a module assignment) and, if necessary, fill in a full ethics form to be submitted to the Physical Sciences Ethics Committee.

Advisors (or Module Leaders): You need to review and approve the completed form. Please ensure you are familiar with the University's [Code of practice and principles for good ethical governance]() to guide your student effectively. Please seek guidance from the Departmental Ethics Officer(s) if you are uncertain about any ethical issue arising from this application.

Section 1. Potential Ethical Issues

Does your project involve any of the following? Please mark Yes or No for **all** issues.

No.	Issue	Yes	No
1.1	Human participants (adults or children)		No
1.2	Human data (e.g. data collected through surveys and questionnaires on issues such as lifestyle, housing and working environments, or attitudes and preferences, or datasets including human data)	Yes	
1.3	Datasets that require permission from the data provider		No
1.4	Applications that could potentially involve unethical practice, including potential dual-use applications (e.g. projects involving tools or data that can be used for unethical purposes e.g. to attack systems)		No
1.5	Funding sources or collaboration with potential to adversely affect existing relationships or bring the University or Department into disrepute (e.g. projects related to gambling, dark market, etc.)		No
1.6	Restrictions on dissemination (e.g. not being allowed to publish certain datasets or results)		No
1.7	Military or defence context		No
1.8	Overseas countries under regimes with poor human rights record or identified as dangerous by the Foreign & Commonwealth Office		No
1.9	Human material (e.g. tissue or fluid samples), vertebrates, especially mammals and birds, or any other organisms not previously mentioned		No

If you answered **No** to all the above, you do not need ethical approval, so you do not need to continue filling in this form and you do not need to submit it for approval.

If you answered **Yes** to any of the above, you must complete this Fast-Track Ethical Approval Form, get it signed off by your project advisor (or module leader), and submit it for approval to the Departmental Ethics Officers.

The rest of this form is designed to verify specific conditions. If certain conditions are not satisfied, the form will guide you to complete a Full Ethical Approval Application, to be approved by the Physical Science Ethics Committee.

Section 2. Project Information

Student Name	Daniz Hajizada
Course Title	Beng Computer Science
Project Advisor	Xinwei Fang
Project Title	Credit Default Prediction Using Machine Learning

Course Mode of Delivery:

+	On Campus		Online

Project Type:

+	Undergraduate Project		Postgraduate Project
	Undergraduate Module Assignment		Postgraduate Module Assignment
	Other - Please specify:		

Project Description

2.1. Provide a clear statement of your research questions or your experimental hypotheses.

Research questions:
Which features (e.g., income, credit history, age, marital status) are most influential in predicting loan default?
How do different machine learning algorithms (e.g., logistic regression, decision trees, random forests) compare in terms of accuracy and performance for predicting loan default?

Experimental Hypotheses:
Features such as credit history and income will have a higher predictive power compared to other demographic variables.
Advanced models like Random Forest will outperform simpler models like Logistic Regression in predicting loan default due to their ability to capture complex patterns.

2.2. Briefly explain the methodology of your study. Give sufficient detail that a non-expert in the subject can understand what you are proposing to do.

In this project, I will use machine learning to predict the likelihood of a customer 'defaulting' on a loan, meaning whether a person will be able to repay a loan or not. I will use a dataset that includes information about people who have taken loans, such as income, credit history, age, marriage status, etc. I will train a machine learning model to recognise patterns and test the model on new data it has not seen before to see if it can correctly identify who will repay and who will not.

External Datasets

If you are not planning to use any external datasets in your project, please mark the following and skip to Section 3.

	I am not using any external datasets in my project.

2.3. If you are using external datasets, please identify the dataset(s). Give sufficient information about each dataset, including relevant names, locations, and any links to the repositories.

I am using the Default of Credit Card Clients Dataset, which is publicly available on a platform called 'Kaggle'. This dataset contains financial and demographic information on 30,000 credit card clients in Taiwan. Link to the dataset : https://www.kaggle.com/datasets/uciml/default-of-credit-card-clients-dataset

2.4. For each of the external datasets, please identify the licence or terms of use (or equivalent), provide a copy of the relevant clauses here, and justify why your project would be compliant with those terms. Provide sufficient information so that reviewers do not need to refer to the full terms.

The dataset is distributed under the 'Public Domain' license. This basically means that I can copy, modify, distribute and perform the work, all without asking permission. My project fully complies with these terms, as it is for academic research purposes. Link to the license : https://creativecommons.org/publicdomain/zero/1.0/

2.5. If the dataset includes data about or collected from humans, please provide evidence that the data was initially collected with consent.

The dataset indeed includes human data; however, it does not contain any personally identifiable features and was fully anonymised before publication. In

addition, the data was published in a well known database and with appropriate consent, which confirms that ethical standards were followed during and after publication.

Section 3. Informed Consent

If you do not have participants in your study, please mark the following and skip to Section 4.

✚	There are no participants in my study.

If you have participants in your study, complete the following table.

If you answer **No** to any of the following, you must submit a Full Ethical Approval Form.

No.	Question	Yes	No	N/A
3.1	Will you inform the participants of the purpose of the study, the investigators, and any funding source?			
3.2	Will you describe the procedures and the data collected to participants in advance, so that they are informed about what to expect? Note: any personal or sensitive information, and any audio or video recording must be explained explicitly and in detail.			
3.3	Will you tell participants that their data will be treated with full confidentiality and that, if published, it will not be identifiable as theirs? Note: If there is a plan to publish data, e.g. direct quotations, on an individual basis (rather than in aggregate), the exact anonymisation method needs to be explained clearly.			
3.4	Will you inform participants of any possible risks of participation?			
3.5	Will you inform participants that their participation is voluntary, that they may withdraw from the research at any time (even after the data collection, for a reasonable and specified time period) and for any reason without any negative consequences, and how they can request withdrawal?			
3.6	Will you obtain and record explicit consent for participation?			
3.7	If the research is observational, will you obtain and record explicit			

	consent to being observed?			
3.8	If the research involves audio or video recording, will you obtain and record explicit consent to being recorded?			
3.9	If there is a plan to publish data, e.g. direct quotations, on an individual basis, will you obtain and record explicit consent to such publication?			
3.10	If you wish to contact participants in the future, will you obtain and record explicit consent to being contacted with the contact method specified?			

If you answered **Yes** to any of the above, this must be explicit in your supporting documents, e.g. consent forms, information sheets, and questionnaires. You need to submit these supporting documents along with this form.

Section 4. Protocol Issues

If you answer **Yes** to any of the following, you must submit a Full Ethical Approval Form.

No.	Question	Yes	No	N/A
4.1	Is your study designed to be challenging or disturbing (physically or psychologically) for anyone including yourself?		No	
4.2	Will you deliberately mislead your participants?		No	
4.3	Does your study involve taking bodily samples?		No	
4.4	Is your study physically or psychologically invasive?		No	
4.5	Could the methodologies or findings of your study damage the reputation of the University of York?		No	

4.6. If there are any obvious or inevitable adaptations of your research findings to ethically questionable aims, e.g. tools or data that can be used to attack systems, please explain the measures you are putting in place to limit such adaptations.

This project does not involve the development of tools or technologies that can be used to attack systems or cause harm to individuals. It focuses solely on predicting the likelihood of loan default using publicly available or ethically sourced financial and demographic data.

Section 5. Health and Safety

Please identify any risks to the participants and state any precautions you will take to ensure their physical and mental health and safety. If you believe there are no risks, please state why.

This project focuses solely on predicting the likelihood of loan default using publicly available or ethically sourced financial and demographic data. In other words, the project does not involve any participants' involvement.

Section 6. Vulnerable Groups and Animals

If you answer **Yes** to any of the following, you must submit a Full Ethical Approval Form.

If your participants are **patients**, in addition to the Full Ethical Application you must follow the Guidelines for Ethical Approval of NHS Projects.

If your project involves any vulnerable group, you may also need to obtain satisfactory Disclosure and Barring Service (DBS) clearance (or equivalent for overseas students).

No.	Question	Yes	No	N/A
6.1	Does your project involve working with animals?		No	
6.2	Does your project involve any of the following vulnerable groups?		No	
	● Children under 18		No	
	● People with learning difficulties		No	
	● People who are unconscious or severely ill		No	
	● Patients, e.g. NHS patients		No	
	● Other vulnerable groups – specify below			

Section 7. Data Protection

If you answer **No** to any of the following, you must submit a Full Ethical Approval Form.

No.	Question	Yes	No	N/A
7.1	Any personal or sensitive data will be stored in password protected folders on computers controlled by the University or an approved partner.	Yes		
7.2	Any hard copies of personal data (including any hard-copy consent forms) will be stored in a secure place within University premises, or those of an approved partner.	Yes		
7.3	Only the student and advisor will have access to the data generated from the study. Note: The advisor may share the anonymised data with other researchers at the University of York, but the consent form needs to make this clear.	Yes		
7.4	The data will be preserved beyond the study in line with University policy and will be placed in the custody of the advisor at the end of the project, or destroyed in accordance with information provided to participants.	Yes		
7.5	All data will be anonymised prior to analysis. Please state your method of anonymisation:			

Section 8. Further Project Information

Human Data

If you have participants in your project or if the data you are working with is about humans, briefly specify each of the following.

8.1. Who are the target participants or data subjects? And how are you recruiting them or how were the data about them collected?

The data subjects in this project are individuals who have previously applied for or received loans. The dataset includes anonymised human data such as age, income, credit history, marital status, and employment status.

8.2. Exactly what pieces of personal and demographic information you are collecting or using from an existing dataset? Explain why you need each.

1. **Age** – Can help identify trends in default likelihood across age groups.
2. **Income** – A key indicator of financial stability. Higher or stable income may reduce the risk of default.
3. **Sex** - Helps identify general trends in loan repayment.
4. **Employment Status** – Whether a person is employed, self-employed, or unemployed can impact their ability to repay a loan.
5. **Credit History** – One of the most important predictors of loan default, as it shows a person's past repayment behaviour.
6. **Marital Status** – This may be associated with financial obligations and stability. Some studies suggest it can influence default risk.
7. **Education Level** – Educational background can relate to job stability and income level.
8. **Loan Amount / Loan Purpose** – Helps the model understand how the size or purpose of the loan relates to the borrower's likelihood of repayment.

8.3. How are you planning to publish your data and analysis results: on an aggregate basis or on an individual basis? If on an individual basis, explain why it is **necessary** to do so and if they will be anonymised.

The data and analysis results will be published only on an aggregate basis. There will be no individual-level data shared or published at any stage of the project. All findings will be presented in summary form, such as overall model performance, feature importance, and group-level trends.

8.4. Is there a risk that the data or analysis results you publish can be de-anonymised? If yes, explain how you are planning to mitigate it.

8.5. If you have questionnaires or interviews, will you give participants the option of skipping any questions they do not want to answer? If any of your questions is/are mandatory, explain why it/they must be.

Section 9. Student Declaration

Please mark boxes below that apply and sign.

+	I have considered the ethical implications of this project and have identified no significant ethical implications requiring a full ethical application submission to the Physical Sciences Ethics Committee.
	I will include all supporting documents (e.g. consent form, information sheet, questionnaires, interview schedules) with this application.
	All the components specified in Section 3 are included explicitly in the information sheet / consent form submitted with this application.

Student Name	Daniz Hajizada
Student Signature	Daniz Hajizada
Date	07/04/2025

Section 10. Advisor (or Module leader) Approval

If this project is related to any previously approved work, please include the application reference for that work here and briefly explain the similarities and differences.

Please mark boxes below that apply and sign.

x	The student has taken all reasonable steps to ensure ethical practice in this study and I can identify no significant ethical implications requiring a full ethical application submission to the Physical Sciences Ethics Committee.
x	I have checked and approved all supporting documents required for this application.
x	I understand that completion of this form indicates that from the ethical point of view I am willing to share responsibility for the work being conducted.

Advisor Name	Xinwei Fang
Advisor Signature	Xinwei Fang

Date	07/Apr/2025

Submission

Please make sure this form is completed in full, signed by both the student and the advisor, and accompanied by required supporting documents (e.g. participant information sheet and consent forms). Otherwise, the approval process is delayed.

Please convert this form to PDF after it is finalised and before submission.

Please submit this form and all supporting documents, preferably all in PDF (unless other file types are appropriate), to the Departmental Ethics Officers through the submission form listed in the [CS Ethical Approval webpage](#).