

**DUNDALK INSTITUTE OF TECHNOLOGY**

**School of Informatics & Creative Arts**

**Ethical Approval Form for Research Projects**

**Researcher Name**: Bhargava Rama Raju Dandu **Year**: 2024-25 **Course:** M.Sc in Data Analytics.

**Title of project**: Early Detection Of Cardio Vascular Diseases Using Machine Learning

**Name of supervisor/s**: Dr. Zohaib Ijaz **Date:** 31/03/2025

(if applicable)

*This application is to be completed by the researcher and where appropriate, in conjunction with the project supervisor. The lead researcher/supervisor is responsible for submitting the completed form to the appropriate Research Ethics Committee (details below)*

**Please note: If your submission is incomplete or unclear, your application will be returned to you and your project may be delayed.**

**Section 1**

**Type of Researcher**

Please tick the appropriate box below to indicate the type of researcher you are:

**Undergraduate**

(proceed to section 2)

*Completed Ethical Approval forms for undergraduate research should be submitted to the relevant Departmental Research Ethics Committee (DREC).*

[*Drec.dcamm@dkit.ie*](mailto:Drec.dcamm@dkit.ie) *– Department of Creative Arts Media and Music*

[*Drec.dcsm@dkit.ie*](mailto:Drec.dcsm@dkit.ie) *– Department of Computing Science and Mathematics*

[*Drec.dvhcc@dkit.ie*](mailto:Drec.dvhcc@dkit.ie) *– Department of Visual and Human Centred Computing*

**Postgraduate**

(proceed to section 3)

*Completed Ethical Approval forms for Postgraduate research should be submitted directly to the School Research Ethics Committee (SREC).*

[*Ica.srec@dkit.ie*](mailto:Ica.srec@dkit.ie)

**Staff**

(proceed to section 3)

*Completed Ethical Approval forms for Staff research should be submitted directly to the School Research Ethics Committee (SREC).*

[*Ica.srec@dkit.ie*](mailto:Ica.srec@dkit.ie)

**Section 2**

**Please complete questions 1-4 listed below.**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Human and / or Animal Research** | YES | NO |
| 1 | **Does your research involve human participants other than the following[[1]](#footnote-1)?**   * Research using exclusively secondary sources. * Research using materials legally accessible to the public that have legal protection, e.g., record of court judgements, data archives. * Research using materials that are publicly accessible and where there is no reasonable expectation for privacy, e.g., books, published third party interviews. * Observations of human behaviour in public where (i) those being observed have no reasonable expectation of privacy, (ii) there is no intervention on the part of the researcher nor any interaction between the researcher and those observed, and (iii) individuals are not identifiable in the results.   If ‘**YES**’, please complete **B and C** below. |  |  |
| 2 | **Does your project involve working with animals?**  – If ‘**YES**’, please complete **B and C** below. – Please note that for ethical consideration: ‘Animals’ are classed as vertebrate animals including cyclostomes and cephalopods (DIRECTIVE 2010/63/EU) |  |  |
| 3 | **Does your project involve working with participants from any of the following categories?**   * Minors (under 18 years of age) * People with learning or communication difficulties * Patients * People in custody * People engaged in illegal activities   If ‘**YES**’, please complete **D** below. |  |  |
| 4 | **Does your project have any possible ethical implications other than those outlined in questions 1, 2 and 3?**  If ‘**YES**’, please complete **E** below. |  |  |

1. **I consider that this project has no significant ethical implications[[2]](#footnote-2) to be brought through the ICA School Ethics Review Process**

***Please complete Section 4***

* 1. **Is this study part of a larger project that already has ethical clearance?**

YES / NO

If **YES** please answer question B II.

If **NO** please answer question C.

* 1. If this study is part of a larger project that already has ethical clearance, are you proposing any changes to the operational plan already ethically approved?

YES / NO

If **YES,** please complete *Sections 3 and 4.*

If **NO,** then please provide the project details below and complete *Section 4*.

Title of project with ethical clearance: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. **Could this project have ethical implications that should be brought before the appropriate ICA Departmental Ethics Review Committee as it will be carried out with human participants?**

YES / NO

If **YES,** please complete *Sections 3 and 4.*

If **NO,** please complete *Section 4.*

1. **I consider that this project may have ethical implications that should be brought before the School Research Ethics Committee as it will be carried out with human participants in a “vulnerable” category.**

***Please complete Sections 3 and 4***

**All research carried out with human participants in a vulnerable category must be referred by the Departmental Research Ethics Committee to the School Research Ethics Committee for approval.**

1. **Could this project have ethical implications, other than those previously outlined, that should be brought before the appropriate ICA Departmental Ethics Review Committee?**

YES / NO

If **YES,** please complete *Sections 3 and 4.*

If **NO,** please complete *Section 4.*

**Section 3**

**3.1 Application Form Checklist**

**Please complete Section 3 and provide additional information as attachments.**

|  |  |  |
| --- | --- | --- |
| **My application includes the following documentation:** | **INCLUDED (mark as YES)** | **NOT APPLICABLE (mark as N/A)** |
| Recruitment advertisement |  | N/A |
| Participant Information Leaflet |  | N/A |
| Participant Informed Consent form |  | N/A |
| Questionnaire/Survey |  | N/A |
| Interview/Focus Group Questions |  | N/A |
| Debriefing material |  | N/A |
| Evidence of approval to gain access to off-site location |  | N/A |
| Ethical approval from external organizations.  If ethical approval from external organizations is pending give details below |  | N/A |
| Details N/A | | |

**3.2 Project Details**

1. **Lay description (Maximum 200 words)**

Please outline, in terms that any non-expert would understand, what your research project is about, including what participants will be required to do. Please explain any technical terms or discipline-specific phrases.

|  |
| --- |
| The main aim of this research project is to detect the patients likely to be affected by heart diseases. Chronic lifestyle disorders cause the majority of heart diseases, and they affect the patient's health suddenly. In most cases, they can be fatal to the patient. Many existing studies aim to classify whether a patient has cardiovascular disease. However, our main aim in this project is to detect cardiovascular disease at an early stage using machine learning algorithms. |

1. **Research objectives (Maximum 150 words)**

Please summarise briefly the objectives of the research.

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| --- |
| The main objective of this research is to develop a machine-learning model that can make predictions for Cardio Vascular Diseases by taking patient’s vitals as input and checking the model’s performance on real-time data by integrating with an embedded system or extracting data via API and giving it as input to check real-time predictions. So, our main aim of this research is to predict cardiovascular diseases beforehand and at a lower cost. By doing this, patients from underdeveloped countries and economically backward people in developing countries can get accurate predictions cheaply. To achieve this, we aim to train a machine-learning model using the existing UCI repository dataset. We aim to enhance the model classifications by implementing ML techniques and evaluating the model performance. |

1. **Research location and duration**

|  |  |
| --- | --- |
| **Location(s)/Population\*** | DKIT campus/Population |
| **Research start date** | 24/02/2025. |
| **Research end date** | 31/08/2025. |
| **Approximate duration** | 6 months. |

\* If location/Population other than DkIT campus/population, provide details of the approval to gain access to that location/population as an appendix.

**3.3 Participants**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | | **YES** | **NO** | **N/A** |
| **Do participants fall into any of the following special groups?** | **Minors (under 18 years of age)** |  |  | N/A |
| **People with learning or communication difficulties** |  |  | N/A |
| **Patients** |  |  | N/A |
| **People in custody** |  |  | N/A |
| **People engaged in illegal activities (e.g. drug-taking)** |  |  | N/A |
| **Have you given due consideration to the need for satisfactory Garda clearance?** | |  |  | N/A |

**3.4 Sample Details**

|  |  |
| --- | --- |
| **Approximate number** | N/A |
| **Where will participants be recruited from?** | N/A |
| **Inclusion Criteria** | N/A |
| **Exclusion Criteria** | N/A |
| **Will participants be remunerated, and if so in what form?**  N/A | |

|  |
| --- |
| **Justification for proposed sample size and for selecting a specific gender, age, or any other group if this is done in your research.**  N/A |

**3.5 Risk to Participants**

a) Please describe any risks to participants that may arise due to the research. Such risks could include physical stress, emotional distress, perceived coercion e.g. lecturer interviewing own students. Detail the measures and considerations you have put in place to minimize these risks

b) What will you communicate to participants about any identified risks? Will any information be withheld from them about the research purpose or procedure? If so, please justify this decision.

**3.6 Informed Consent**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **YES** | **NO** | **N/A** |
| **Will you obtain active consent for participation?** |  |  | N/A |
| **Will you describe the main experimental procedures to participants in advance?** |  |  | N/A |
| **Will you inform the participants that their participation is voluntary and may be withdrawn at any point?** |  |  | N/A |
| **If the research is observational, will you ask for their consent to being observed?** |  |  | N/A |
| **With questionnaires, will you give participants the option of omitting questions they do not want to answer?** |  |  | N/A |
| **Will you tell participants that their data will be treated with full confidentiality and that, if published, it will not be identifiable as theirs?** |  |  | N/A |
| **Will the data be anonymous?** |  |  | N/A |
| **Will you debrief participants at the end of their participation?** |  |  | N/A |
| **Will your project involve deliberately misleading participants in any way, or will information be withheld?**  **If you answer yes, give details and justification for doing this below.** |  |  | N/A |
|  | | | |

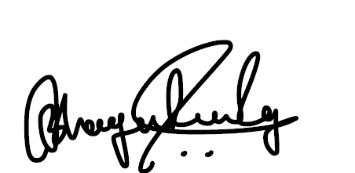
|  |
| --- |
| 1. **Please outline your approach to ensuring the confidentiality of data (that is, that the data will only be accessible to agreed upon parties and the safeguarding mechanisms you will put in place to achieve this.) You should include details on how and where the data will be stored, and who will have access to it.**   N/A |

|  |
| --- |
| 1. **Please outline how long the data will be retained for, if it will be destroyed and how it will be destroyed.**   **1.Storage**    **2. Access**    **3. Communication**    **4. Digital Platform Usage**    **5. Data maintenance** |

**Section 4**

**Researcher** I have read and I understand the DkIT Ethics Policy available from:

<https://www.dkit.ie/assets/uploads/documents/Research/Policies/DkIT%20Research%20Ethics%20Policy.pdf>

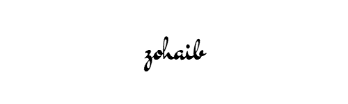


**Signed**: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **Print Name**: Bhargava Rama Raju Dandu **Date**: 31/03/2025

(Researcher)

**Supervisor:** Applications for Ethical Approval of Undergraduate projects are forwarded to the Departmental Research Ethics Committee for approval or referral to the School Research Ethics Committee. Applications for Ethical Approval of Postgraduate and Staff projects are sent to the School Research Ethics Committee for Approval.

I have read and approved this form & information:

Signed: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Print Name: \_\_\_Dr. Zohaib Ijaz\_\_\_\_\_\_\_\_\_ Date: \_31st March 2025\_\_\_\_\_\_\_\_\_

(Supervisor/Head of Department/ Research Centre Director/ Head of School)

There is an obligation on the researcher and/or supervisor to bring to the attention of the Departmental/School Research Ethics Committee(s): (a) Any issues with ethical implications not clearly covered by this form (b) Any ethical issues which may arise during the carrying out of the research; (c) Any ethically significant change made to the project after approval.

**Section 5 (For office use only)**

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**STATEMENT OF ETHICAL APPROVAL (FOR UNDERGRADUATE PROJECTS ONLY)**

This project has been considered using agreed department procedures and is now:

Approved:

Referred to the School Ethics Committee:

Signed: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Print Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_

(Chair of Departmental Research Ethics Committee/Head of Department)

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**STATEMENT OF ETHICAL APPROVAL**

This project has been considered using agreed School procedures and is now:

Approved:

Rejected (further information sought):

**Chair of School Research Ethics Committee**

This project has been considered by the Ethics Committee and ethical approval is granted.

Signed: Print Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_

Chair of School Research Ethics Committee

1. If there is any doubt, researchers should contact the Chair of the SREC. [↑](#footnote-ref-1)
2. In determining significant implications, please consider all potential risks attached to this project. If there is any doubt, researchers should contact the Chair of the SREC. [↑](#footnote-ref-2)