**Macao Polytechnic University  
Faculty of Applied Sciences, Computing Programme**

**Ethics Checklist for Student Projects**

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| **Name of student:**  *(leader of the team, if applicable)* | **Eden Xiang** |
| **Student number:** | **P1908370** |
| **Ethics training completed:**  *(please specify)* | Project management, Human factor and user interface, Ethnic |
| **Programme:** | ☑ BSc in Computing 🞏 MSc in Big Data and IoT 🞏 PhD in Computer Applied Technology |
| **Module:** | Final Year Project |
| **Title of project:** | Text Detection and Recognition in Image-Based on Deep Learning |
| **Supervisor:** | Jacky Tang |

**Instructions**

Answer the following questions honestly. If your answer falls into a shaded box, you must provide additional information on how you will handle the related ethics issues on the last page of this form.

**Project summary**

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| It has now become popular in mainland China to have students answer questions on a special type of answer card, which generally uses positioning points to locate answers and scan them into the computer by dividing them according to the pre-set position.  However, this approach is still not good enough. One problem is that it requires an answer card designed specifically for the test and may require a special optical recognition machine. Another problem is that the existing marking system can only judge multiple choice questions, not fill-in-the-blank questions that have standard answers.  This project intends to build an intelligent marking system that recognizes students' handwritten answers and grades them against standard answers. The text detection and recognition part will be implemented using image processing and deep learning techniques. |

**Participants (Consent procedures and possible harm)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | **Yes** | **No** | **N/A** |
| 1 | Does your project include human participants?  If no, you can skip the rest of this section. |  |  | √ |
| 2 | Will any of the participants be from vulnerable groups, e.g. children under 18, people with communication difficulties, patients in hospital?  If yes, please specify: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |  |  | √ |
| 3 | Will you tell participants that their participation is voluntary? |  |  | √ |
| 4 | Will you obtain written consent for participation? |  |  | √ |
| 5 | Will you tell participants that they may withdraw from the research at any time and for any reasons without penalty? |  |  | √ |
| 6 | Is there any realistic risk that any participants could experience either physical or psychological distress or discomfort? |  |  | √ |

**Data Protection**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | **Yes** | **No** | **N/A** |
| 7 | Will any non-anonymised and/or personalized data be generated and/or stored? |  |  | √ |
| 8 | Will you have access to documents containing sensitive data about living individuals? |  |  | √ |

**Researcher Safety**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | **Yes** | **No** | **N/A** |
| 9 | Will you be exposed to any risks greater than those encountered in their normal study/working life? E.g. operation of non-standard equipment or extended |  |  | √ |
| 10 | Will you be exposed to highly addictive or illegal activities (e.g. gambling, drugs) during the research? |  |  | √ |

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| Please explain how the identified potential research ethics issue will be handled. |
| Any other issues?  No. |

**Declaration**

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| --- | --- |
| **Student**  I have read the instruction carefully and reported honestly the potential ethics issues about the project.  ─────────────  Date: 08/09/2022 | **Supervisor**  To the best of my knowledge, the student has reported honestly the potential ethics issues about his/her project.  ─────────────  Date: |

This form is largely based on the ethical approval documents from Cardiff University <https://www.cs.cf.ac.uk/ethics/> and University of Glasgow <http://www.dcs.gla.ac.uk/ethics/>