**Chengdu University of Technology Oxford Brookes College**

**Project Module (CHC 6096)**

**Weekly Report Sheet - 2024/2025 Academic Year**

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| STUDENT NAME: | Jane |
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| WEEK NUMBER | 2 |
| DATE: | 2024/10/28 - 2024/11/3 |
| **Action plan for the current week:**   1. Literature review:  * Reviewed the literature on the project in the last five years, summarized the advantages and disadvantages of its method * Compares the performance of several models in tabular form.  1. Comparison of existing models: After comparison, I found that most forest fire detection models are integrated or optimized on the YOLO algorithm, because it ensures lightweight detection while implementing detection. 2. Project proposal:  * After determining the dataset and the basic optimization model, I clarified the topic of the proposal and revised the proposal more accurately. * Have completed the Project proposal，Ethic form, AI declaration, Plagiarism Report.  1. DataSet:  * I found the appropriate dataset from the connections recommended by the teacher. * 70% of the data set is used as the training set, 15% as the test set, and the remaining 15% as the verification set. | |
| **Challenges and issues encountered in the week:**   1. When writing a proposal, there are some informal language descriptions 2. There are some obstacles in the acquisition of image data 3. Need to understand how data sets are processed and classified 4. Lack of knowledge of deep learning models, the progress of drawing algorithm architecture is very slow | |
| **Action plan for the next week:**   1. Data preprocessing: Convert image data to model acceptable formats, and the normalized processing, so that the input to the neural network. 2. Data set partition:  * Learn how to divide the data set into the training set, the validation set, and the test set. * Tools were used to label the fire area in the image and generate the training data set. * The training set is used to learn the model parameters, the validation set is used to adjust the hyperparameters and monitor the model performance, and the test set is used to evaluate the model accuracy.  1. Build the model：  * From the existing CNN models, the YOLOv5 model was selected for improvement. * Consider integrating YOLOv5 with other CNN models to improve forest fire identification performance. * YOLOv5 Optimization design of the algorithm. | |
| **Supervisor Feedback:** | |