# 2018/19 candidate record form, production log and assessment record

## Level 3 Extended Project (7993)

Please attach the form to your candidate’s work and keep it at the centre or send it to the moderator as required. The declarations should be completed as indicated.

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| **Centre number** |  | **Centre name** |
| Click here to enter. |  | Click here to enter text. |
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| --- | --- | --- |
| **Candidate number** |  | **Candidate’s full name** |
| 2036 |  | David Haoming Chen |
|  |  |  |

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| --- |
| Work submitted for assessment **must** be the candidate’s own. If candidates copy work, allow candidates to copy from them, or cheat in any other way, they may be disqualified. |

**Candidate declaration**

Have you received help/information from anyone **other than** subject teacher(s) to produce this work?

No  Yes *(give details below or on a separate sheet if necessary).*

|  |
| --- |
| Click here to enter text. |

Please list below any books, leaflets or other materials (for example DVDs, software packages, internet information) used to complete this work **no**t acknowledged in the work itself. Presenting materials copied from other sources **without acknowledgement** is regarded as deliberate deception.

|  |
| --- |
| Click here to enter text. |

From time to time we use anonymous examples of candidates’ work (in paper form and electronically) within our guidance materials to illustrate particular points. If your work appears in AQA materials in this context and you object to this, please contact us and we will remove it on reasonable notice.

I have read and understood the above. I confirm I produced the attached work without assistance other than that which is acceptable under the scheme of assessment.

|  |  |  |
| --- | --- | --- |
| Candidate signature. | Date | Click here to enter a date. |
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**Supervisor declaration**

I confirm the candidate’s work was conducted under the conditions laid out by the specification. I have authenticated the candidate’s work and am satisfied, (to the best of my knowledge) that the work produced is solely that of the candidate.

|  |  |  |
| --- | --- | --- |
| Supervisor signature. | Date | Click here to enter a date. |
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Submission checklist

**To be completed by the supervisor**

|  |  |
| --- | --- |
| Extended Project **working** title | Click here to enter text. |
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| --- | --- |
| Extended Project **final** title | Click here to enter text. |
|  |  |

Form of project

|  |  |  |  |
| --- | --- | --- | --- |
|  | Either | written report | |
|  | Or | Click here to enter text. | and accompanying written report |
|  |  |  |  |

Is this project part of a group project?

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| --- | --- | --- |
|  | No |  |
|  | Yes | If ‘Yes’, give brief details Click here to enter text. |

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| **Please note** that failure to complete or submit a compulsory element may result in a mark of zero being awarded. |

|  |  |  |
| --- | --- | --- |
| Select/tick | Items that **must** be included | Notes |
|  | 1. A signed and completed *Candidate record form, production log and assessment record* | This document. All pages must be completed. |
|  | 1. Research based written report | If the project product is an artefact or a production, an accompanying research based written report is also required. |
|  | 1. Evidence of the project product | Eg photographs of artefact, investigation or production; a piece of creative writing (artefact); research based written report. |
|  | 1. Evidence of a presentation within the production log | Presentation on the project process. Where the project product is itself a presentation (for a specified audience), a presentation on the project process must also be delivered to a non-specialist audience |

The taught skills element

**To be completed by the supervisor**

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| **Outline details of taught skills**  Record here details of relevant skills taught in a class/group and details of relevant skills taught individually to this candidate as described in the specification. Continue on a separate sheet if necessary.  Click here to enter text. |

Record of marks

**To be completed by the supervisor**

Marks must be awarded in accordance with the instructions and criteria in the specification.

Summary information to show how the marks have been awarded should be given in the spaces below in addition to comments in other pages of this document and any supporting information in the form of annotations on the candidate’s work.

|  |  |  |  |
| --- | --- | --- | --- |
| Skill area | Maximum mark | Mark awarded | Supervisor’s supporting statement |
| 1. Manage | 10 | Click. | Click here to enter text. |
| 1. Use resources | 10 | Click. | Click here to enter text. |
| 1. Develop and realise | 20 | Click. | Click here to enter text. |
| 1. Review | 10 | Click. | Click here to enter text. |
| Total mark | 50 | Click. |  |

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| **Supervisor’s concluding comments**  Click here to enter text. |

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| **Internal moderation comments if appropriate**  Click here to enter text. |

**Supervisor declaration**

I confirm that no work assessed for the award of the marks above is also to be submitted, or has been submitted, for any other accredited qualification(s).

|  |  |  |
| --- | --- | --- |
| Supervisor signature. | Date | Click here to enter a date. |
|  |  |

Record of initial ideas

**To be completed by the candidate**

This page records initial meeting(s) with your supervisor to agree your project ideas. Additional pages can be submitted if more than one idea has been explored.

|  |
| --- |
| My idea(s) for topic/title  A very interesting and close topic for me would be in the fields of machine learning, so I have decided to apply that into the project that I plan to do.  *How effective is AI in use of detecting crop disease”*  How AI can be used in simulated situations consisting of only AI in order to try and start AI to learn off each other- this can be the start of AI self-awareness |
| My ideas for research and development of my project   * *Research into the different kinds of machine learning methods used normally, such as Tensorflow, K-nearest neighbours and random forests.* * *Work shadowing at QBots* * *Work shadowing at MMU* * *By using a prototype app, building upon this app’s concept and coding, researching whether machine learning will increase efficiency of the app.* * *Test how many crops with crop disease are detected with this app out of a sample. This is to provide a start point and a place where we can compare future versions for* * *Learn how to use and process the application for detecting crop disease* |
| My summary of the comments and advice from my supervisor  *Change research topic to “How effective is AI in use of detecting crop disease”*  *Share the EPQ production logs onto onedrive* |
| Modifications I have made as a result of my discussion with my supervisor  *Changed research topic from” how we can use AI in detecting crop disease,” to “How effective is AI in use of detecting crop disease”. Also uploaded and shared onto onedrive. “How effective” allows me to expand upon different methods in a comparative study, which allows me to establish a hierarchy into which would be the absolute best method to apply to the data.* |

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| --- | --- | --- |
|  | Date | 15 June 2018 |
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Part A: Candidate proposal

**To be completed by the candidate**

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| Working title of my Extended Project.  Present the topic to be researched in the form of a short statement/question/hypothesis with clear focus.  How efficient is AI through the use of a single photo in the use of detecting crop disease? |

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| * my initial resources will be * A publicly available dataset which contains different plants and their disease pictures. * Google scholar. * Different literature sources and papers. |
| * the courses of study or area(s) of personal interest to which the topic relates * Computing * Machine learning |
| * my intended product   I intend to produce a report which summarises all the computable methods for detecting crop disease, and by using cross examination, be able to conclude which method is the most suitable. This is done by calculating the efficiency of the method which is done by using the accuracy score formula involving true/false positive/negatives. |

Provide details of the courses that you are currently studying

|  |  |
| --- | --- |
| **Qualification type** | **Awarding body & subject** |
| eg A-level, Modern Apprenticeship, BTEC | eg AQA Mathematics, OCR Computing, WJEC English |
| A-level | Edexcel Maths |
| A-level | AQA Chemistry |
| A-level | AQA Physics |

|  |  |
| --- | --- |
| **Qualification type** | **Awarding body & subject** |
| Click to enter text. | Click here to enter text. |
| Click to enter text. | Click here to enter text. |
| Click to enter text. | Click here to enter text. |
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| Click to enter text. | Click here to enter text. |

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| **Notice to candidate** You must not take part in any unfair practice in the preparation of project work required for assessment and you must understand that to present material copied directly from any book or any other sources without acknowledgement will be regarded as deliberate deception. If you use or attempt to use any unfair practice you will be reported to AQA and you may be disqualified from **all** subjects. |

**Candidate declaration**

I certify that I have read and understood AQA’s Regulations relating to unfair practice as set out in the notice to candidates above.

|  |  |  |
| --- | --- | --- |
| Candidate signature. | Date | 26 June 2018 |
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Part B: Supervisor’s comments on candidate proposal

**To be completed by the supervisor**

Please comment below on the validity and feasibility of the candidate proposal (Part A) as an Extended Project

|  |  |
| --- | --- |
|  | Supervisor’s comments |
| Indicate the relation to, and development/extension outside of, the main course(s) of study or interest | Click here to enter text. |
| Comment on the suitability of the proposed initial sources and research base | Click here to enter text. |
| Confirm that the project is feasible in the proposed timescale and/or indicate any potential difficulties that may prevent the candidate from meeting the assessment objectives | Click here to enter text. |

Indicate the expected format of the project product that will be submitted for assessment

Research based written report

Artefact (for example prototype, model, artwork, scientific investigation, creative writing) plus written report

Is the project a contribution to a group exercise?  YES  NO

If Yes, confirm that there is a defined individual contribution by the candidate  YES  NO

List the **other** group members below.

|  |  |
| --- | --- |
| Candidate No. Click. | Candidate Name Click here to enter text. |
| Candidate No. Click. | Candidate Name Click here to enter text. |
| Candidate No. Click. | Candidate Name Click here to enter text. |

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| --- | --- | --- |
| Supervisor signature. | Date | Click here to enter a date. |
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Part C: Centre coordinator’s approval of candidate proposal

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| **Supervisor’s name** |
| Click here to enter text. |
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**To be completed by the centre coordinator**

If you are acting as both the Centre coordinator and the supervisor, please seek counter signature from a senior colleague

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| Centre coordinator’s comments on the feasibility and acceptability of the proposal (parts A & B) as an Extended Project  Click here to enter text. |

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|  | Approved |  | Approved subject to the implementation of  the centre coordinator’s recommendations |  | Resubmission required |

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| **Centre coordinator’s name** |
| Click here to enter text. |
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| --- | --- | --- |
| Centre coordinator signature. | Date | Click here to enter a date. |
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Planning review

**To be completed by the candidate**

This page records your outline plan once your proposal has been approved.

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| My next steps in planning, researching and deadlines that I will set myself. What I intend to do, by when, what resources I will use and how I will implement the recommendations of the centre co-ordinator (where appropriate).  I plan to take all the machine learning algorithms, together into one code to code the program itself. I plan to research the machine learning algorithms and how they function, as well as produce code which can statistically tell me via printing out images whether I have a correct prediction or not. I intend to finish this by the end of November.  I plan to analyse many different literature reviews already done related to this subject, so that I may integrate them into my own. This is done because I would like to compare the methods that has been done already, and by using these methods, I’m able to extract the advantages and disadvantages to using image detection and classification.  I plan to frequently visit various different articles to ask and find questions on similar topics which may help me when writing up my code. |
| My summary of the comments and advice from my supervisor  Click here to enter text. |
| Modifications I have made as a result of my discussion with my supervisor and/or the comments from my centre coordinator  Click here to enter text. |

|  |  |  |
| --- | --- | --- |
|  | Date | Click here to enter a date. |
|  |  |

Mid-project review

**To be completed by the candidate**

This page records your outline plan when you have completed your research.

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| Is my project following my original plan? How has my plan developed?  Plan is going according to schedule. I have also begun to add errors and improvements to the project which was not designed to be there initially. I ran into some problems regarding the instalment of the program, as well as the execution of the program, but these will be solved as I have to change the layout of my computer, by restarting it to factory conditions. I also was planning to add tensorflow to the list of comparable methods to be used, however I realised midway through the writing of the code, that my computer was not able to support tensorflow at all. Another big reason was that I was not as fluent in tensorflow as I was in the other algorithms, and so I don’t think it would have made for good writing in the project. |
| My summary of the comments and advice from my supervisor  Click here to enter text. |
| Modifications I have made as a result of my discussion with my supervisor at this stage  Click here to enter text. |
| My final title and agreed form of project product  Click here to enter text. |
| My planned next steps to complete my project  Click here to enter text. |

|  |  |  |
| --- | --- | --- |
|  | Date | Click here to enter a date. |
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Project product review

**To be completed by the candidate**

This page records the (near) completion of your project product. Outline the successes, failures, additions and/or changes you made as you followed the plan in your mid-project review

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| Did my project follow my revised plan (from the mid-project review)?  It followed most of my revised plan. I had some mishaps in determining how I was going to present the experimental results of my experiment, and I recently discovered that my conclusion was no good, which I have to fix at some point. When running the code, my computer crashed quite a bit, despite running almost completely new. I was able to eventually get all of the data needed, but this problem took up quite a lot of my time, and I was mostly trying to keep up with the pace from then on. I added a reference page, which was meant to be in the plan at the start, but I always forgot to add it in. I also removed the boxplot visualisation in the experimental conclusion, as I had to change the way the data was displayed in the results section from one box trying to contain all the information, into five separate boxes, which contained information on each classifier in each plant. Within these tables I also added minimum and maximum accuracy, which is found out from subtracting or adding the standard deviation to the average. |
| My summary of the comments and advice from my supervisor at this final stage  To explain and justify why a method is to be used, as if imagining that the people reading the essay has no knowledge on the matter.  To use the resources located on Onedrive to its full potential. |
| Modifications I have made as a result of discussion with my supervisor at this final stage  Do I need to do anything else to complete my product?  I have revisited the methods and rewrote them so that the context of the essay subject is included into the methods. They are also easier to understand because of this change. It will be easier to help people who don’t understand the methods, to understand why the methods are used.  By using the resources on Onedrive, the references are fixed and I can use the sample located there to understand what kind of writing tone is preferable in the essay. |

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| --- | --- | --- |
|  | Date | Click here to enter a date. |
|  |  |

Presentation record part A

**To be completed by the candidate**

This page records your presentation and its preparation.

|  |
| --- |
| Planned format of my presentation (eg timing, audience, use of visual aids, slides, use of notes, etc.)  Click here to enter text. |
| Planned content of my presentation  Click here to enter text. |
| Modifications I have made as a result of rehearsal and/or discussion with my supervisor  Click here to enter text. |

|  |  |  |
| --- | --- | --- |
|  | Date | Click here to enter a date. |
|  |  |

Presentation record part B

**To be completed by the supervisor**

Record and comment below on the delivery of the presentation

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| --- | --- |
|  | Supervisor’s record/comments |
| The nature of the audience (include numbers of staff, students and others present) | Click here to enter text. |
| The nature of the presentation (include use of notes, use of display items, and use of presentation software) | Click here to enter text. |
| Comment on the content and delivery of the presentation (for example clarity of ideas, structure of presentation, pace, engagement with audience) | Click here to enter text. |
| Comment on the response of the candidate to questions that demonstrated understanding and grasp of the project and/or its production. **Give examples of questions asked and answers given.** | Click here to enter text. |

|  |  |  |
| --- | --- | --- |
| Supervisor signature. | Date | Click here to enter a date. |
|  |  |

Summary and reflection

**To be completed by the candidate**

This page records your summary, reflection and evaluation when you have completed your project product and given your presentation.

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| --- |
| Some questions you may wish to answer in this section include, what have I learned from completing this project? What new knowledge or expertise have I enjoyed or found valuable? What are the strengths and weaknesses of my project (including planning and organisation)? What skills have I improved? What changes would I make if I undertook such work again? What advice would I give to others undertaking such a project?  Click here to enter text. |