Team Canada – ISEF Application 2019 - Research Plan

Neural network controlled drone swarms for optimized 3D reconstruction of large objects

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1. All projects must have a Research Plan/Project Summary

a. Written prior to experimentation following the instructions below to detail the rationale, research question(s), methodology, and risk assessment of the proposed research.

b. If changes are made during the research, such changes can be added to the original research plan as an addendum, recognizing that some changes may require returning to the IRB or SRC for appropriate review and approvals. If no additional approvals are required, this addendum serves as a project summary to explain research that was conducted.

c. If no changes are made from the original research plan, no project summary is required.

2. Some studies, such as an engineering design or mathematics projects, will be less detailed in the initial project plan and will change through the course of research. If such changes occur, a project summary that explains what was done is required and can be appended to the original research plan.

3. The Research Plan/Project Summary should include the following:

a. RATIONALE:

Include a brief synopsis of the background that supports your research problem and explain why this research is important and if applicable, explain any societal impact of your research.

b. RESEARCH QUESTION(S), HYPOTHESIS(ES), ENGINEERING GOAL(S), EXPECTED OUTCOMES:

How is this based on the rationale described above?

c. Describe the following in detail:

• Procedures:

Detail all procedures and experimental design including methods for data collection. Describe only your project.

Do not include work done by mentor or others.

• Risk and Safety:

Identify any potential risks and safety precautions needed.

• Data Analysis:

Describe the procedures you will use to analyze the data/results.

d. BIBLIOGRAPHY:

List major references (e.g. science journal articles, books, internet sites) from your literature review. If you plan to use vertebrate animals, one of these references must be an animal care reference.