**Identifying Aircraft from above**

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We all know what an aircraft looks like, but does a computer? A seemingly simple task that can be carried out by individuals at age two, poses a complex problem to modern technology. Machine learning is a relatively new field with little research but many applications. The same techniques used to identify aircraft can be used in various software applications utilized in self-driving cars, face recognition systems and many others. The development of object recognition is the center of many companies’ business models and objectives. To undertake this task, machine learning models are trained by providing existing images of aircraft and ground images. The model forms an understanding of the training data and makes predictions on test data with associated probabilities. The results obtained shows accuracy of 100% when identifying standalone aircraft filling the whole frame. However, when searching for aircraft in larger images, accuracy drastically decreases. To 50-60%. This demonstrates how new machine learning applications are. After optimization, the system used to identify aircraft can be applied to a myriad of identification problems with possible military and commercial problems.

. Introduction: Why did you do the research?

2. Methods: How did you accomplish it?

3. Results: What did you accomplish?

4. Discussion: what does it mean and what are the consequences?

Identify the problem you solved or the hypothesis you investigated.

What was your approach for investigating the problem? Don't go into detail about materials unless they were critical to your success. Do describe the most important variables if you have room.

What answer did you obtain? Be specific and use numbers to describe your results. Do not use vague terms like "most" or "some."

State what your science fair project or invention contributes to the area you worked in. Did you meet your objectives? For an engineering project state whether you met your design criteria.

Replace this text with your project abstract. You should write the abstract such that it can be read and understood by the general public. You should write no more than 250 words in total. Your abstract should fit on ½ page A4 paper. You are encouraged to write the abstract such that it encourages external visitors to come and discuss your project with you. You should show your abstract to your supervisor and seek their approval for its publication in the Open Day Booklet. When you save this file use the filename “openday\_abstract\_*yoursurname*”. Do not forget to submit it to Faser by 11.59.59 on 13th March 2019.