

# A Google based detector for alien sightings on planet Earth

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## 1 Introduction

Over the past 4.5 billion years, humans have emerged as the arguably technologically most advanced species on planet Earth. Whether intelligent life exists elsewhere in the Universe or not remains unknown. Possible ways of investigating this problem include a) exploring the conditions for the formation of life and the mechanisms for the evolution of life (a research branch often summarized as astrobiology), b) searching for other intelligent civilisations in the Universe (SETI - search for extraterrestrial intelligence), or c) attempting to communicate with alien civilisations (Active SETI or METI - Messaging to Extraterrestrial Intelligence). All these methods have their merits and limits. Discussing them in depth is beyond the scope of this paper. As of today, the results from these programs with regard to the initial question remain inconclusive.

A new and complementary approach to tackle the issue is pursued by the WETI institute – short for "Waiting for Extraterrestrial Intelligence": We are counting on the potential alien civilisation to find us. That way, we are using the humanity in its entirety as an alien detector. The idea is not new and has been applied unsystematically for many thousand years. It has, however, never before been tested in a rigorous scientific environment, which is our goal. For more information on the WETI program, see <http://weti-institute.org>.

## 2 The alien detector

While the WETI approach is inherently simple, it presents one major challenge: To be functional as an alien detector, humanity has to act as a hierarchical system where many individual units provide information to a core unit. The WETI institute is well prepared to act as the core of the system. What is lacking is a robust structure that connects the individual nodes ('persons') to the central core and thus can alert us of ongoing alien encounters. Without such a structure, the endeavour risks to become inefficient and incoherent.

At present, we are using arcane technology as the backbone of the information structure: An Android app pretends to track the alien sightings and presents the results in graphical form. In addition, the app shows the current Twitter feed of the WETI institutes and thus creates the illusion of ongoing activity. This system has multiple advantages, for example, it is very inexpensive, easy to maintain, and reports virtually zero false positives. On the other hand, it is a complete fake. This is not *per se* problematic, as illusions are often and demonstrably more realistic than reality, to the extent that it is not clear whether reality

itself is an illusion or not. Still, it would be desirable to develop an alternative way of connecting with the WETI nodes, which could turn out to be useful as an independent control or as a backup, in case the cellphone network is obliterated right at the outset of the alien invasion.

In this short paper we explore the idea of using the internet as an alert system for WETI. Specifically, we aim to use information about the searches carried out with Google. We hypothesize that alien activity will naturally lead to an increased search volume for terms like "alien" or "ufo". This method is not without precedent. The successful project *Flu Trends* uses Google search terms as indicators of flu activity and produces a real-time world map of flu activity from an analysis of the Google searches (see <http://www.google.org/flutrends/> for more information). They were able to demonstrate a high correlation between Google detected flu activity and real flu activity. While this kind of proof is not feasible in our case, because we do not have scientifically useful information about previous encounters with extraterrestrial beings, the general idea is appealing.

From the perspective of an internet user, alien activity and flu activity are similar phenomena – a strange force that affects our life in profound ways and requires us to seek help. One possibly problematic difference between the flu and aliens: Most persons have some experience with flu-like symptoms; thus they can be expected to guess what is happening and to choose appropriate search terms. In contrast, one could argue that not many have a good understanding of the effects of alien activity on the human body. It is therefore possible that in many cases alien encounters are confused with other activities and thus trigger unpredictable search patterns in Google. Since we rely on coherent search terms, we could lose these signals. On the other hand, the multitude of alien depictions in movies and books have the effect that our minds are polluted by the alien idea (not unlike our bodies are with bacteria<sup>1</sup>) the reverse effect might be more likely – harmless and spurious activities are mistaken for alien encounters, leading to excessive contamination of the search volume. This potential bias/contamination issue has to be kept in mind when interpreting the findings.

### 3 Results

In Fig. 1 we show results from Google Insights for Search for the search terms "alien" and "ufo", for a time period from early 2004 (the earliest possible date for which data exists) to mid 2012. The figure shows the search volume index for a given term as a function of time, corresponding to "interest over time". The data are normalised and scaled so that 100 is the maximum. The details of this process are described under <http://www.google.com/insights/search/>, but should not affect the following discussion. In addition, the tool allows us to examine the geographical distribution of the search terms, which may serve as a first step in the localisation of any alien invasion.

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<sup>1</sup>This raises the obvious question how to distinguish between the flu virus and aliens, which may or may not be discussed in a forthcoming paper

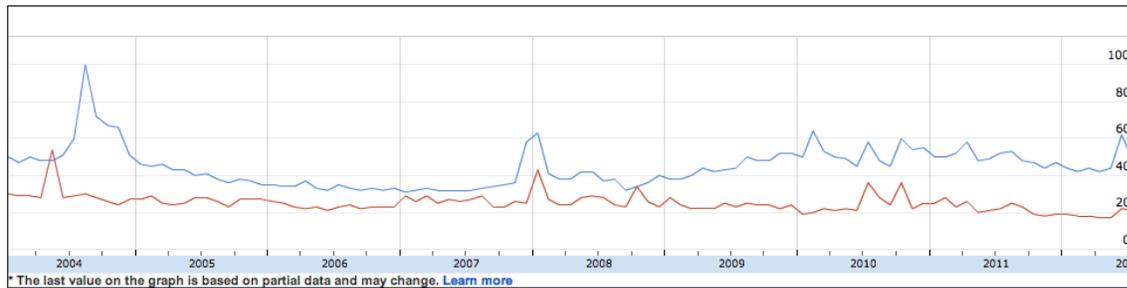


Figure 1: Google Insights for Search result for the search terms "alien" (blue) and "ufo" (red). The values reflect how many searches have been done on these terms relative to the total volume of searches. For more information see <http://www.google.com/insights/search/>.



Figure 2: Identical to Fig. 1, but only for the year 2010. Figures limited to a specific year have been used to compile Table 1. Noteworthy is the big balloon invasion in October 2010.

From a cursory glance, it is clear that the two search terms produce some correlated and some uncorrelated peaks in the search volume. In general, "alien" is used in more searches, maybe not surprising given the frequent use of the word in various unrelated contexts. Possibly of interest, the term "alien" causes a maximum search volume index of 100 in Pakistan, whereas the term "ufo" reaches 100 in Albania.

In Table 1 we list the most prominent peaks in this plot. Note that the numbers listed are obtained by limiting the search to a given year, which means they are not comparable with the values in Fig. 1. As an example, we show the search results for the year 2010 in Fig. 2. In an attempt to not to overlook possible signals, we include some weak peaks which are only barely statistically significant.

## 4 Discussion and outlook

After a cursory glance at Table 1 it is safe to say that the results from this experiment are less than promising. Out of 34 peaks, at least 10 can be traced back to clearly spurious incidents (e.g. movies, computer games). 8 more are caused by reports about UFO events that may or may not have happened in the distant past. Although most of the remaining events are in fact caused by actual UFO sightings or possible alien encounters, they hardly constitute new evidence – the peaks merely indicate the most popularised alien or ufo events in a given time frame (e.g., UFO sighting over large cities). Moreover, the peaks only trace the media reports about the events, not the events themselves, and are thus not of interest to us. We could obtain the same information simply by reading the daily newspaper. Besides, these popular events are also the ones that are most critically examined, and many of the examples given in Table 1 have been convincingly proven to be hoaxes.

While the peaks in Fig. 1 turned out to be irrelevant for our purposes, we were able to convince ourselves that many more interesting signals are buried in the noise. A Google search for *any* given time window reveals a significant number of UFO sightings or alien encounters all around the globe, documented either by video evidence or, more commonly, as simple reports. Over the timespan documented in Fig. 1 we are talking about hundreds of encounters. These detections, however, do not cause a sufficiently large search volume to generate a peak and can thus not be extracted from the statistics. The main lesson is that it is indeed possible to obtain information about alien sightings from the internet, but it is impossible to track these reports reliably based on Google search statistics. Or in other words: *Only the voice that shouts loudest is heard on the internet.*<sup>2</sup>

It is entirely possible that all or at least some of these reports are based on actual UFO and alien sightings, indicating that extraterrestrials are everywhere on the planet – and have been for decades. At this point, however, this option cannot be reliably distinguished from the alternative possibility of an ongoing mass delusion, not unlike a brain parasite, that causes uncounted numbers of alien reports. All we have learned, therefore, is that aliens are either everywhere on the planet or at least somewhere or nowhere. This, however, does hardly constitute progress. In this respect the Google experiment has proven to be a dead end.

On the bright side, it has to be said that our analysis, by necessity, was focused on the past. In the event that the alien invasion has not happened yet, it is maybe not surprising that we were unable to identify it in the Google search volume. It is at least conceivable that an upcoming invasion of a fleet of alien spaceships will generate a peak in the Google statistics that exceeds those found for the 'Alien vs. Predator' releases. For research purposes and to secure possibly crucial evidence, the WETI institute will therefore continue to monitor the Google alien trends.

**Acknowledgements:** The WETI team would like to thank the dotastronomy community (see <http://dotastronomy.com>) for generous moral support over the past 5 years.

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<sup>2</sup>And possibly in the Universe, too, but that's a different topic.

| no. | date                       | alien | ufo | comment  |
|-----|----------------------------|-------|-----|--|
| 1   | 2004, May 9-15             |       | 87  | Mexican UFO incident                           |
| 2   | 2004, Aug 15-21            | 100   |     | 'Aliens vs. Predator' released                 |
| 3   | 2004, Oct 31 - Nov 6       | 64    |     | 'Alien vs. Predator' released in Europe        |
| 4   | 2005, Feb 20-25            |       | 73  | UFO documentary on ABC                         |
| 5   | 2006, Feb 5-11             |       | 64  | unclear  |
| 6   | 2006, May 7-13             |       | 63  | study on MoD report on UFOs                    |
| 7   | 2006, Dec 31 - 2007, Jan 7 |       | 100 | France announces to publish UFO archive        |
| 8   | 2007, Mar 18-24            |       | 42  | France UFO archive goes online                 |
| 9   | 2007, Aug 12-18            |       | 42  | flying saucer video from Haiti                 |
| 10  | 2007, Dec 2-8              | 69    | 34  | 'Alien vs. Predator' trailer, UFO peak unclear |
| 11  | 2007, Dec 23-29            | 100   |     | 'Alien vs. Predator Requiem' released          |
| 12  | 2008, Jan 13-19            | 92    | 96  | Texas Sightings in Stephenville                |
| 13  | 2008, May 11-17            |       | 52  | UK releases UFO files                          |
| 13  | 2008, Jun 1-7              | 78    |     | UFO man on CNN                                 |
| 14  | 2008, Jun 22-28            |       | 57  | UFO sightings by man in Liverpool              |
| 15  | 2008, Jul 20-26            |       | 49  | US astronaut speaks about UFOs                 |
| 16  | 2008, Oct 19-25            |       | 68  | reports from UK UFO files                      |
| 17  | 2008, Dec 21-27            | 77    | 40  | several prominent UFO sightings                |
| 18  | 2009, Apr 5-11             | 82    |     | unclear  |
| 19  | 2009, Aug 23-29            | 98    |     | alien baby caught in Mexico                    |
| 20  | 2009, Sep 20-26            | 86    |     | 'alien hand' spotted on photograph             |
| 21  | 2009, Oct 18-24            | 89    | 47  | UK man observes aliens at crop circles         |
| 22  | 2009, Nov 22-28            | 95    |     | 'Ben 10: Alien Swarm' released                 |
| 23  | 2009, Dec 27 - 2010, Jan 2 | 100   |     | preview of 'Alien vs. Predator' game?          |
| 24  | 2010, Feb 14-20            | 93    |     | 'Alien vs. Predator' game released             |
| 25  | 2010, Jul 11-17            |       | 72  | China closes airport after UFO sighting        |
| 26  | 2010, Jul 18-24            | 100   |     | 'Alien Swarm' game released                    |
| 27  | 2010, Aug 1-7              |       | 43  | British UFO files: story about Churchill       |
| 28  | 2010, Oct 10-16            | 84    | 60  | balloons over NYC, other incidents             |
| 29  | 2011, Jan 30 - Feb 5       |       | 56  | Jerusalem UFO                                  |
| 30  | 2011, Apr 17-23            | 100   | 41  | FBI Memo about Roswell                         |
| 31  | 2011, Jun 26 - Jul 3       |       | 39  | UFOs over London                               |
| 32  | 2011, Aug 28 - Sep 3       |       | 39  | several prominent UFO sightings                |
| 33  | 2011, Dec 25-31            | 65    |     | 'Prometheus' trailer                           |
| 34  | 2012, Jun 10-16            | 100   |     | 'Prometheus' release                           |

Table 1: Local maxima in the search volume index for the terms "alien" and "ufo". Columns 3 and 4 list the search volume index for the respective year.