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Re-Identification with Data from the Swiss Transportation Safety Investigation Board

NLP Project Report

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# Abstract

By increasing the amount of anonymized open source data, the number of re-identification attacks is also increasing. This has raised a number of security and privacy problems for both individuals and the corporate levels. Swiss court decisions are published after being anonymized, to protect the privacy of the involved people. In this project, I examined the possibility of re-identifying the people involved in court decisions related to accidents reported to the Swiss Transportation Safety Investigation Board (STSB) in two steps. In the first step, I tried to connect the ruling with Swiss Transportation Safety Investigation Board data to find direct identifiers. These identifiers can be any details about the accident, that help to re-identification. In the second step, by searching the online datasets, I investigate to find the names of people involved in each court decision. The result shows that for the first step, I have been able to find a link between 46 decisions out of 64. However, As for re-identification, I could re-identify the names of one person involved in 2 decision wich assosiated with same accident.

# Introduction

In the era of open source data, rapid technological advances, and globalization, there are numerous challenges to protecting the identity and privacy of the people. As one of the fields that are targeted for re-identification attacks is court datasets and rules. Switzerland is one of the countries that increasingly makes some level of court datasets available for the public, These openly published data may contain several sensitive personal information that should not be exposed. The anonymization of these documents means removing the name or other direct identifiers from these documents. Figure 1 shows an excerpt from a court decision relevant to the present project. This reveals the extent of the anonymization. The exact date and location of the event were removed as direct identifiers and the name of the pilot was removed as the identity of the parties.

Published court decisions serve as an example of anonymized personal data. Even if it is not possible for third parties to re-identify the plaintiff or defendant from the court judgments themselves, the question arises as can we do re-identification by linking the court decisions with other data.

Some studies show that re-identification is often possible through the "linkage" of different databases. Therefore, it cannot be guaranteed that a judgment made anonymously will not be re-identified through connection to other data sources. Prior to the possibility of "linkage", data that were not considered personal are increasingly becoming personal data because of this possibility of "linkage".

Court rulings have addressed a variety of accidents, including those involving trains, cars, and airplanes. There are also reports describing the accident on the website of the Swiss Transportation Safety Investigation Board (STSB). In this project, I tried to link each court decision with a specific incident reported to STSB to find out, to what extent this information of reports can be used to re-identify parties in court decisions. In the following, I describe the method in detail and the results.

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Figure 1: Example of a Court judgment (20210917\_CA\_2021\_5) in which the pilot was found guilty of negligent disruption of public transport. The name of pilot with the aircraft type and registration number, the flight operator, the location and date of event were made anonymous.

# Methodology

## Overall view

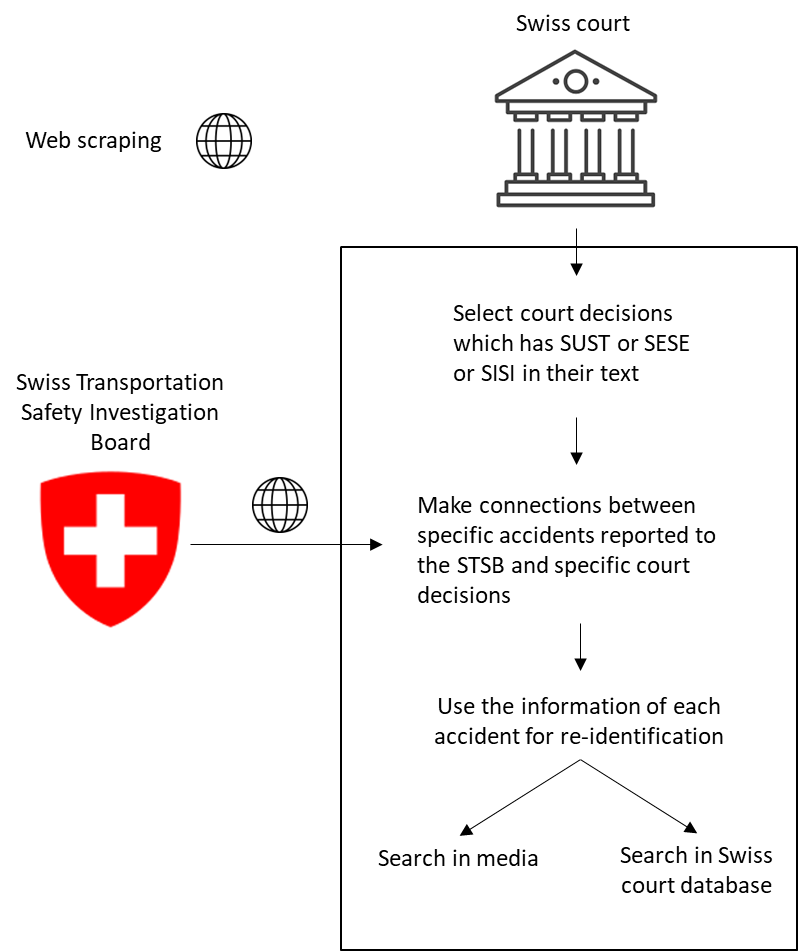


Figure 2: Overview of the methodical procedure and the connection or "linkage" of data.

## 

## Data

To have a sufficient amount of data for this project, it was first necessary to find court decisions pertaining to accidents reported to the STSB, using the court database. On this basis, all federal court judgments were searched in full text using the abbreviation of Swiss Transportation Safety Investigation Board in German, French and Italian languages (SUST, SESE, SISI). I used PostgreSQL DBMS to quering over Swiss court database. The queries were run in the beginning of July 2022.



Overall, 104 decisions contained at least one of these keywords. Next, data filtering was necessary because some of the extracted keywords were not exactly related to STSB reports. Full-text Review of 104 decisions reveals that 64 of them were actually related to STSB-reported accidents. From these 64 judgments, I extracted interesting information such as decision language and court name.

In contrast, I needed a database of all events reported to STSB to retrieve relevant events to each court decision. Using the "web scraping technique", I have stored locally (JSON file), all published reports on the website of STSB between June 2022 and January 2000. I have two datasets containing aviation events and railways and ships events.

Linkage

Subsequently, search queries were used to link information from the Court judgments with information that was as specific as possible ("linkage") in order to enable re-identification. specific information such as aircraft type or the location and date of the event, or the authorization holder.

As shown in Figure 1 as a sample of anonymized court decisions, the exact date and location of the event and also the name and type of aircraft, and the name of the pilot are removed. So I needed to discover the corresponding event to this decision in STSB data, and extract these anonymized pieces of information which may help me to detect the name of people.

to implement the linkage method, I extracted some specific information such as the date, time and location of event, as well as information about type and registeration number of vehicle mentioned in event's details, and any information was unique in the content of the event. After that, I made a a list of keywords for each event using these informations. in order to find relevant decision, for each list of keywords of each event, the text of decisions were searched by using "Regular expressions". Figure 3 illustrates the report of the accident which is linked to the court decision in Figure 1. Based on the information of this report, we can retrieve all direct identifiers which are anonymized in the correspondent court decision displayed in Figure 1.



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Figure 3: Investigation report of an accident which is concerned to court judgment in Figure 1.

# Results

I was able to link correctly 44 out of 64 court judgments to accident reports in STSB data, which resulted in identifying all removed direct identifiers from decisions. For the rest of the 20 decisions, 9 cases were not really related to the specific accident, and for 2 of the decisions, there was not any report about the accident in STSB data but was related to it, finally, in 9 of cases the level of anonymization was so strong that it was not possible to link. Table 1 provides all the decisions associated with aviation and train accidents.

The aim of this project was to find out, to what extent of information in the STSB data can be used to re-identify entities occurring in court decisions. As shown in Figure 4, the names of individuals such as crew members, examiners, and air traffic controllers oficers are not mentioned in the investigation reports. Specifically, I find the year of birth, the nationality, the type of license, and the experiences of individuals involved in accidents in the reports.

Table

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Figure 4: A sample of explaination about a copilot that mentioned in the investigation report

Initially, I checked the Person database on the Swiss court database to find names, but there were no entries corresponding to court judgments in my project. Then, I tried to browse media and online news sources by using the information obtained from accident reports in STSB data. For example, the accident occurred on 19 December 2010 near Bever, and both pilots were killed. There are three court decisions related to this accident. In turn, I found some links on Google about the accident, but no details about the identity of the two pilots were provided.[[1]](#footnote-1)

I did the same effort for all linked decisions. As a result of searching the media, there was no appropriate result for 6 events. In 7 cases I was able to find much online news which made a report of the accident on the same date, but, they did not specify the name crew or involved people in the accident.

Event with Id **720**, is related to falling balloon Wörner NL1000/STU. For this accident, I found the [link](https://www.bzbasel.ch/aargau/zurzibiet/ein-pilotenfehler-fuhrte-zum-ballonabsturz-in-fisibach-ld.1284957) on the https://www.bzbasel.ch website which interviewed the pilot of the balloon and specified the first letter of name and family name (Figure 5). Also for the event with id **407**, there are two [links](https://www.blick.ch/schweiz/zuerich/flugzeug-absturz-in-loehningen-sh-pilot-michael-m-52-wegen-fahrlaessiger-toetung-verurteilt-id15649380.html) on the https://www.blick.ch website, where the news reporter mentioned the first name of the pilot but for the last name, there is just the first letter (Figure 6). My further effort was ineffective in finding the full name of the 2 pilots.

Finally, I was able to re-identify just 1 case. There are two judgments with file id **1151312** and **1153438** which is related to the accident (event id **650**), which happened on 6 June 2013. And two aircraft collided, the glider crashed and the glider pilot was able to save himself with a parachute. In the text of the decisions, the pilots are mentioned as a suspect. When I searched about the accident, I found a [forum](https://www.flightforum.ch/board/topic/89529-662013-segelflugzeug-mooney-schinznach-zusammenstoss-in-der-luft/) where expert people were talking about the accident. In one of the posts, I found the name of the Glider's pilot is **Christian Thomann** (Figure 7). I searched the name and there was a [link](https://www.blick.ch/schweiz/mittelland/christian-thomann-60-sprang-mit-dem-fallschirm-aus-dem-segelflugzeug-bei-diesem-pilot-flog-ein-schutzengel-mit-id2332016.html) on https://www.blick.ch that help me to be sure the found name is correct (Figure 8). But for other aircraft pilots, there are no details. So I was able to re-identify just one identity.

I provided all the media search results in Table 2. The grey blocks are reidentified decision. And links in red color are the source of re-identification.

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Figure 5: The search result for event id 720.

https://www.bzbasel.ch/aargau/zurzibiet/ein-pilotenfehler-fuhrte-zum-ballonabsturz-in-fisibach-ld.1284957

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Figure 6: The search result for event id 407 https://www.blick.ch/schweiz/zuerich/flugzeug-absturz-in-loehningen-sh-pilot-michael-m-52-wegen-fahrlaessiger-toetung-verurteilt-id15649380.html

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Figure 7: the search result for event 650 associated to reidentified decisio.

https://www.flightforum.ch/board/topic/89529-662013-segelflugzeug-mooney-schinznach-zusammenstoss-in-der-luft/

Graphical user interface, text, application, email

Description automatically generated

Figure 8: The re-identified entitiy

https://www.blick.ch/schweiz/mittelland/christian-thomann-60-sprang-mit-dem-fallschirm-aus-dem-segelflugzeug-bei-diesem-pilot-flog-ein-schutzengel-mit-id2332016.html

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | FileId | Decision Language | Court decision date | Decision url | Event  Id | Event date | Accident report url |
| 1 | 186262 | de | 2014-10-16 | [Url](https://jurispub.admin.ch/publiws/download;jsessionid=EF3BD735F1BED2F0E2F7383BB206043B?decisionId=042d660d-0284-4cb7-a044-53d6c1359ea9) | 736 | 19. 12. 2010 | <https://www.sust.admin.ch/inhalte/AV-berichte/2140_d.pdf> |
| 2 | 172799 | de | 2014-10-16 | [Url](https://jurispub.admin.ch/publiws/download;jsessionid=EF3BD735F1BED2F0E2F7383BB206043B?decisionId=a1c4e71c-cc28-4500-b4b2-f08d53f8f62e) | 736 | 19. 12. 2010 | <https://www.sust.admin.ch/inhalte/AV-berichte/2140_d.pdf> |
| 3 | 187283 | de | 2014-10-16 | [Url](https://jurispub.admin.ch/publiws/download;jsessionid=EF3BD735F1BED2F0E2F7383BB206043B?decisionId=cabd60b0-a398-4826-939f-5742dbabaa54) | 736 | 19. 12. 2010 | <https://www.sust.admin.ch/inhalte/AV-berichte/2140_d.pdf> |
| 4 | 331563 | de | 09-04-2019 | [Url](https://jurispub.admin.ch/publiws/download;jsessionid=3ADF3B906E4F89A20AA19851A0267BBF?decisionId=1afb8a2d-bf3a-4feb-a184-0ea7b9fcc3bf) | 574 | 26. 09. 2014 | <https://www.sust.admin.ch/inhalte/AV-berichte/HB-ZGJ.pdf> |
| 5 | 332925 | de | 2014-06-03 | [Url](https://jurispub.admin.ch/publiws/download;jsessionid=EF3BD735F1BED2F0E2F7383BB206043B?decisionId=ded9bcd7-4c72-4cb1-8bce-2bcc7d6a9e99) | 680 | 14. 06. 2012 | <https://www.sust.admin.ch/inhalte/AV-berichte/2226_d.pdf> |
| 6 | 963425 | fr | 2019-04-16 | [Url](https://www.bger.ch/ext/eurospider/live/de/php/aza/http/index.php?lang=de&type=highlight_simple_query&page=28&from_date=12.04.2019&to_date=01.05.2019&sort=relevance&insertion_date=&top_subcollection_aza=all&query_words=&rank=279&azaclir=aza&highlight_docid=aza%3A%2F%2F16-04-2019-6B_1341-2018&number_of_ranks=354) | 667 | 24. 11. 2012 | <https://www.sust.admin.ch/inhalte/AV-berichte/2228.pdf> |
| 7 | 982166 | de | 2019-10-29 | [Url](https://www.bger.ch/ext/eurospider/live/de/php/aza/http/index.php?lang=de&type=highlight_simple_query&page=47&from_date=29.10.2019&to_date=17.11.2019&sort=relevance&insertion_date=&top_subcollection_aza=all&query_words=&rank=463&azaclir=aza&highlight_docid=aza%3A%2F%2F29-10-2019-6B_332-2019&number_of_ranks=469) | 728 | 15. 03. 2011 | <https://www.sust.admin.ch/inhalte/AV-berichte/Angaben_Videoclips_SWR1326.pdf> |
| 8 | 986672 | de | 2019-10-29 | [Url](https://www.bger.ch/ext/eurospider/live/de/php/aza/http/index.php?lang=de&type=highlight_simple_query&page=47&from_date=29.10.2019&to_date=17.11.2019&sort=relevance&insertion_date=&top_subcollection_aza=all&query_words=&rank=467&azaclir=aza&highlight_docid=aza%3A%2F%2F29-10-2019-6B_332-2019&number_of_ranks=469) | 728 | 15. 03. 2011 | <https://www.sust.admin.ch/inhalte/AV-berichte/Angaben_Videoclips_SWR1326.pdf> |
| 9 | 1006665 | de | 2019-06-27 | [Url](https://www.bger.ch/ext/eurospider/live/de/php/aza/http/index.php?lang=de&type=highlight_simple_query&page=7&from_date=11.06.2019&to_date=30.06.2019&sort=relevance&insertion_date=&top_subcollection_aza=all&query_words=&rank=66&azaclir=aza&highlight_docid=aza%3A%2F%2F27-06-2019-6B_1220-2018&number_of_ranks=422) | 657 | 12. 04. 2013 | <https://www.sust.admin.ch/inhalte/AV-berichte/2211_d.pdf> |
| 10 | 1030880 | de | 2019-06-27 | [Url](https://www.bger.ch/ext/eurospider/live/de/php/aza/http/index.php?lang=de&type=highlight_simple_query&page=7&from_date=11.06.2019&to_date=30.06.2019&sort=relevance&insertion_date=&top_subcollection_aza=all&query_words=&rank=66&azaclir=aza&highlight_docid=aza%3A%2F%2F27-06-2019-6B_1220-2018&number_of_ranks=422) | 657 | 12. 04. 2013 | <https://www.sust.admin.ch/inhalte/AV-berichte/2211_d.pdf> |
| 11 | 1036664 | fr | 2019-04-16 | [Url](https://www.bger.ch/ext/eurospider/live/de/php/aza/http/index.php?lang=de&type=highlight_simple_query&page=29&from_date=12.04.2019&to_date=01.05.2019&sort=relevance&insertion_date=&top_subcollection_aza=all&query_words=&rank=281&azaclir=aza&highlight_docid=aza%3A%2F%2F16-04-2019-6B_1341-2018&number_of_ranks=354) | 667 | 24. 11. 2012 | <https://www.sust.admin.ch/inhalte/AV-berichte/2228.pdf> |
| 12 | 1143129 | fr | 2018-03-21 | [Url](https://bstger.weblaw.ch/pdf/20180321_SK_2017_53.pdf) | 667 | 24. 11. 2012 | <https://www.sust.admin.ch/inhalte/AV-berichte/2228.pdf> |
| 13 | 1144026 | fr | 2017-11-14 | [Url](https://bstger.weblaw.ch/files/20161207_SK_2016_27.pdf) | 761 | 15. 01. 2010 | <https://www.sust.admin.ch/inhalte/AV-berichte/2097.pdf> |
| 14 | 1145946 | fr | 2021-09-29 | [Url](https://bstger.weblaw.ch/files/20210929_CA_2020_8.pdf) | 761 | 15. 01. 2010 | <https://www.sust.admin.ch/inhalte/AV-berichte/2097.pdf> |
| 15 | 1146168 | de | 2016-05-19 | [Url](https://bstger.weblaw.ch/files/20160129_SK_2015_39.pdf) | 720 | 25. 06. 2011 | <https://www.sust.admin.ch/inhalte/AV-berichte/2182.pdf> |
| 16 | 1149330 | de | 2017-03-27 | [Url](https://bstger.weblaw.ch/files/20170214_BB_2016_288.pdf) | 692 | 26. 04. 2012 | <https://www.sust.admin.ch/inhalte/AV-berichte/2219.pdf> |
| 17 | 1149451 | de | 2021-10-12 | [Url](https://bstger.weblaw.ch/files/20211012_SK_2021_11.pdf) | 227 | 19. 08. 2018 | <https://www.sust.admin.ch/inhalte/AV-berichte/HB-KOU_HB-ZMI_SumB_D.pdf> |
| 18 | 1149978 | de | 2021-04-19 | [Url](https://bstger.weblaw.ch/files/20201218_SK_2020_38.pdf) | 446 | 26. 05. 2016 | <https://www.sust.admin.ch/inhalte/AV-berichte/2349.pdf> |
| 19 | 1150761 | de | 2016-01-29 | [Url](https://bstger.weblaw.ch/pdf/20160129_SK_2015_39.pdf) | 720 | 25. 06. 2011 | <https://www.sust.admin.ch/inhalte/AV-berichte/2182.pdf> |
| 20 | 1151312 | de | 2017-01-12 | [Url](https://bstger.weblaw.ch/pdf/20170112_SK_2016_42.pdf) | 650 | 06. 06. 2013 | <https://www.sust.admin.ch/inhalte/AV-berichte/2238_d.pdf> |
| 21 | 1151866 | fr | 2019-01-08 | [Url](https://bstger.weblaw.ch/files/20180321_SK_2017_53.pdf) | 667 | 24. 11. 2012 | <https://www.sust.admin.ch/inhalte/AV-berichte/2228.pdf> |
| 22 | 1151939 | fr | 2021-06-18 | [Url](https://bstger.weblaw.ch/files/20210618_SK_2021_9.pdf) | 316 | 29. 08. 2017 | <https://www.sust.admin.ch/inhalte/AV-berichte/HB-SAW.pdf> |
| 23 | 1153438 | de | 2017-05-10 | [Url](https://bstger.weblaw.ch/files/20170112_SK_2016_42.pdf) | 650 | 06. 06. 2013 | <https://www.sust.admin.ch/inhalte/AV-berichte/2238_d.pdf> |
| 24 | 1154819 | fr | 2020-04-08 | [Url](https://bstger.weblaw.ch/pdf/20200408_SK_2018_55.pdf) | 761 | 15. 01. 2010 | <https://www.sust.admin.ch/inhalte/AV-berichte/2097.pdf> |
| 25 | 1154842 | fr | 2020-04-27 | [Url](https://bstger.weblaw.ch/files/20200408_SK_2018_55.pdf) | 761 | 15. 01. 2010 | <https://www.sust.admin.ch/inhalte/AV-berichte/2097.pdf> |
| 26 | 1154961 | it | 2021-11-09 | [Url](https://bstger.weblaw.ch/files/20211109_SK_2021_24.pdf) | 181 | 12. 03. 2019 | <https://www.sust.admin.ch/inhalte/AV-berichte/HB-ZNZ_SumB.pdf> |
| 27 | 1155606 | de | 2017-12-18 | [Url](https://bstger.weblaw.ch/files/20170914_SK_2017_24.pdf) | 522 | 01. 07. 2015 | <https://www.sust.admin.ch/inhalte/AV-berichte/2271.pdf> |
| 28 | 1155869 | fr | 2016-12-07 | [Url](https://bstger.weblaw.ch/pdf/20161207_SK_2016_27.pdf) | 761 | 15. 01. 2010 | <https://www.sust.admin.ch/inhalte/AV-berichte/2097.pdf> |
| 29 | 1156327 | de | 2017-09-14 | [Url](https://bstger.weblaw.ch/pdf/20170914_SK_2017_24.pdf) | 522 | 01. 07. 2015 | <https://www.sust.admin.ch/inhalte/AV-berichte/2271.pdf> |
| 30 | 1156383 | de | 2021-07-06 | [Url](https://bstger.weblaw.ch/files/20210525_CA_2019_29.pdf) | 407 | 26. 08. 2016 | <https://www.sust.admin.ch/inhalte/AV-berichte/HB-EQN_Wiederaufnahme.pdf> |
| 31 | 1156818 | de | 2019-08-16 | [Url](https://bstger.weblaw.ch/pdf/20190816_SK_2019_1.pdf) | 407 | 26. 08. 2016 | <https://www.sust.admin.ch/inhalte/AV-berichte/HB-EQN_Wiederaufnahme.pdf> |
| 32 | 1157349 | de | 2021-05-25 | [Url](https://bstger.weblaw.ch/files/20210525_CA_2019_29.pdf) | 407 | 26. 08. 2016 | <https://www.sust.admin.ch/inhalte/AV-berichte/HB-EQN_Wiederaufnahme.pdf> |
| 33 | 1157409 | de | 2018-05-30 | [Url](https://bstger.weblaw.ch/pdf/20180530_SK_2018_1.pdf) | 657 | 12. 04. 2013 | <https://www.sust.admin.ch/inhalte/AV-berichte/2211_d.pdf> |
| 34 | 1157705 | de | 2020-12-18 | [Url](https://bstger.weblaw.ch/files/20201218_SK_2020_38.pdf) | 446 | 26. 05. 2016 | <https://www.sust.admin.ch/inhalte/AV-berichte/2349.pdf> |
| 35 | 1157961 | de | 2018-11-22 | [Url](https://bstger.weblaw.ch/files/20180530_SK_2018_1.pdf) | 657 | 12. 04. 2013 | <https://www.sust.admin.ch/inhalte/AV-berichte/2211_d.pdf> |
| 36 | 1158465 | fr | 2021-07-05 | [Url](https://bstger.weblaw.ch/files/20210618_SK_2021_9.pdf) | 316 | 29. 08. 2017 | <https://www.sust.admin.ch/inhalte/AV-berichte/HB-SAW.pdf> |
| 37 | 1158487 | de | 2021-09-17 | [Url](https://bstger.weblaw.ch/files/20210917_CA_2021_5.pdf) | 446 | 26. 05. 2016 | <https://www.sust.admin.ch/inhalte/AV-berichte/2349.pdf> |
| 38 | 1158799 | de | 2017-02-14 | [Url](https://bstger.weblaw.ch/pdf/20170214_BB_2016_288.pdf) | 692 | 26. 04. 2012 | <https://www.sust.admin.ch/inhalte/AV-berichte/2219.pdf> |
| 39 | 1159519 | de | 2019-12-05 | [Url](https://bstger.weblaw.ch/files/20190816_SK_2019_1.pdf) | 407 | 26. 08. 2016 | <https://www.sust.admin.ch/inhalte/AV-berichte/HB-EQN_Wiederaufnahme.pdf> |
| 40 | 1159547 | fr | 2021-11-01 | [Url](https://bstger.weblaw.ch/files/20210929_CA_2020_8.pdf) | 761 | 15. 01. 2010 | <https://www.sust.admin.ch/inhalte/AV-berichte/2097.pdf> |
| 41 | 1317169 | de | 2018-12-04 | [Url](https://www.gerichte-zh.ch/fileadmin/user_upload/entscheide/oeffentlich/SB170072-O1.pdf) | 728 | 15. 03. 2011 | <https://www.sust.admin.ch/inhalte/AV-berichte/Angaben_Videoclips_SWR1326.pdf> |
| 42 | 1318980 | de | 2021-02-19 | [Url](https://www.gerichte-zh.ch/fileadmin/user_upload/entscheide/oeffentlich/SB190243-O1.pdf) | 674 | 22. 08. 2012 | <https://www.sust.admin.ch/inhalte/AV-berichte/2203_d.pdf> |
| 43 | 848777 | de | 2021-09-07 | [Url](https://jurispub.admin.ch/publiws/download;jsessionid=C58D719A364C26DA328C96E67A47CD28?decisionId=6fbcdeb6-c9d8-4279-8d73-18d82d13d0d3) | 1088 | 20. 12. 2001 | <https://www.sust.admin.ch/inhalte/AV-berichte/1829_d.pdf> |
| 44 | 1250017 | fr | 2019-01-23 | [Url](https://www.findinfo-tc.vd.ch/justice/findinfo-pub/html/CREP/D%E9cision/20190128164121325_e.html) | 173 train | 25.04.2015 | <https://www.sust.admin.ch/inhalte/BS/2015042501_Sb_d.pdf> |

Table 1:The list of court judgments which is linked.

|  |  |
| --- | --- |
| **Event Id** | **Event url** |
| 736 | <https://www.sust.admin.ch/inhalte/AV-berichte/2140_d.pdf> |
| <https://aviation-safety.net/database/record.php?id=20101219-0&lang=de>  <https://baaa-acro.sindev.ch/crash/crash-raytheon-390-premier-i-samedan-2-killed>  <https://www.suedostschweiz.ch/boulevard/engadiner-flughafen-entlastet>  <https://www.20min.ch/story/business-jet-stuerzt-in-bever-ab-zwei-tote-108424580220>  <https://www.tageblatt.lu/nachrichten/flugzeugabsturz-bei-st-moritz-12312424/> | |
| 574 | <https://www.sust.admin.ch/inhalte/AV-berichte/HB-ZGJ.pdf> |
| There was appropriate result | |
| 680 | <https://www.sust.admin.ch/inhalte/AV-berichte/2226_d.pdf> |
| <https://news.aviation-safety.net/2015/08/11/report-serious-airprox-incident-with-falcon-2000-and-hawker-hunter-over-switzerland/> | |
| 667 | <https://www.sust.admin.ch/inhalte/AV-berichte/2228.pdf> |
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