



NSF.gov Award Search

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Introduction

- The U.S. National Science Foundation is an independent federal agency that supports science and engineering in all 50 states and U.S. territories.
- NSF was established in 1950 by Congress to:
 - Promote the progress of science.
 - Advance the national health, prosperity and welfare.
 - Secure the national defense.
- Each year, the National Science Foundation awards more than 12K awards each year
- The Award Search system is a web application that provides extensive search capabilities for internal and external users. The Award Search System is an application on NSF's external website (www.nsf.gov).
- Who uses NSF Award Search? Everybody!



https://www.nsf.gov/news/factsheets/Factsheet_By%20the%20Numbers_05_21_V02.pdf

Persona 1 – Dr. Paul the Principal Investigator

- Sample prompts or information Dr. Paul, a Principal Investigator and future proposer may want to know
- “I want to submit a proposal to NSF to understand and process animal sounds and language. Is my idea or topic already funded at NSF? Which program and program officer can I talk to about my idea?”



Persona 2 – Ms. Sandy the General Public

- Sample prompt or information Ms. Sandy from the General Public may want to know
- “I want to know about the awards made to <abc> organization/university by area of science and award size. In addition, tell me if the Principal Investigators or Co-Principal Investigators on any of the awards appear on awards to other organizations, break that down by area of science as well.”

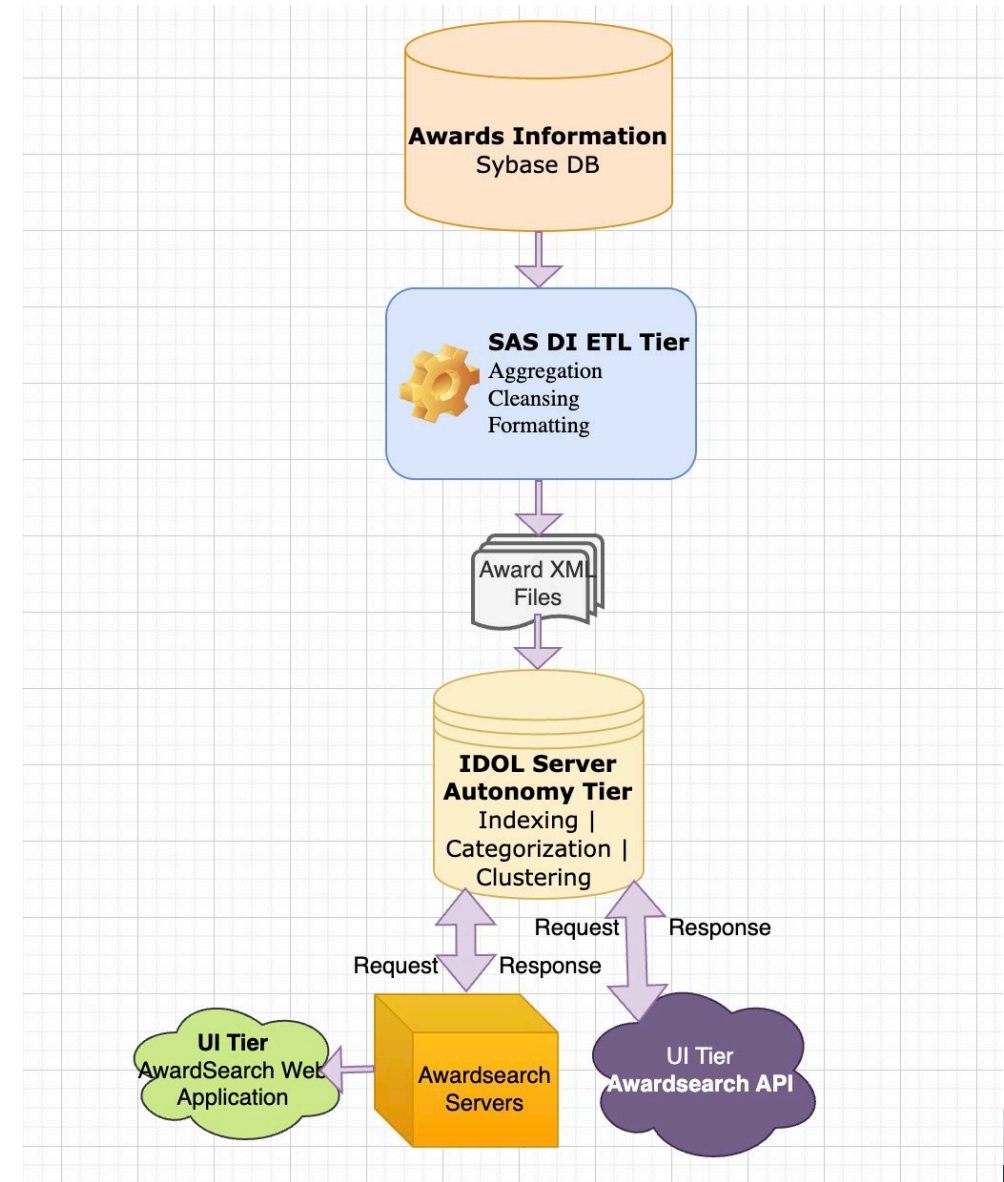


Technical Overview



Architecture

- Award Search application is built as a three-tier application. The ETL tier, Autonomy tier and the UI tier. The diagram below represents the architecture of the application, API and the flow between the three tiers.
- The application will give the users advanced functionalities such as refine search, multiple views, conceptual searches to name a few. The application will be powered by Autonomy's IDOL search engine and uses GXT to utilize Web 2.0 features like AJAX.





Data

Award data from the various DES databases is aggregated, transformed and cleansed by the daily incremental ETL job to generate a collection of XML files, each file representing an Award.

The Award XML files are saved in the file system and are indexed into the Autonomy Search Engine. The Award Search application and API will use the data indexed on the Autonomy Server while serving a search request.

Award XML files are also provided in zipped format to the users in the below page.

<https://www.nsf.gov/awardsearch/download.jsp>

The Award Search application is a Java/J2EE based web application using technologies such as JSP, Tags, GWT and GXT. The application communicates with the underlying IDOL tier using Autonomy provided ACI API.

The Award Search API is a microservice which helps the research community to query NSF data by passing parameters in the URL. Documentation of the Awards API can be found in the below page.

<https://resources.research.gov/common/webapi/awardapisearch-v1.htm>



How to Use Simple Search

- **Simple search form searches all of the data associated with an award.** From one search box you can search title, abstract, names, institutions, programs and other information associated with an award.



Awards Simple Search

[Overview of Award Search Features](#)

Search award for: [Search](#)

Use double quotes for exact search. For example "water vapor".

Active Awards **Expired Awards**

- **For ex:** If we want to check the awards related to “Artificial Intelligence”, we can use the keyword search by typing in “artificial intelligence” in the search field and clicking “search” button.

Search award for: [Search](#)

Export up to 3,000 Awards: [CSV](#) | [XML](#) | [Excel](#) | [Text](#) [Export All Results](#)

Sort By: Results size: [Table](#) | [List](#) Page 1 of 100 Displaying 1 - 30 of 3000

A maximum of 3,000 results are displayed. If you did not find the information you are looking for, please refine your search.

Making the Master's Degree in Artificial Intelligence Accessible to High-Achieving Low-Income Students
Award Number:2030854; Principal Investigator:Dimitris Pados; Co-Principal Investigator:Nancy Romance, Stella Batalama, Javad Hashemi, Xingquan Zhu;
Organization:Florida Atlantic University;NSF Organization:DUE Start Date:09/01/2020; Award Amount:\$1,000,000.00; Relevance:47.69;



Simple search using API

A simple search using the API can be achieved by passing the keyword “Artificial Intelligence” into the URL.

<https://www.research.gov/awardapi-service/v1/awards.json?callback=processJson&keyword=Artificial+Intelligence>

By default, the number of results that can be viewed in a page is 25 and is the upper limit as well. The offset parameter can be used to iterate through the next set of results.

1st 25 result set

<https://www.research.gov/awardapi-service/v1/awards.json?callback=processJson&keyword=Artificial+Intelligence&rpp=25&offset=1>

2nd 25 result set

<https://www.research.gov/awardapi-service/v1/awards.json?callback=processJson&keyword=Artificial+Intelligence&rpp=25&offset=26>



How to Use Advanced Search

- **Consolidated advanced search provides access to all fielded searches.** We support searches by key data fields. All of these are available on the advanced search screen.



Awards Advanced Search

[Overview of Award Search Features](#)

A screenshot of the 'Recipient Information' section of the advanced search form. It includes fields for Principal Investigator First Name, Principal Investigator Last Name, Organization, State (a dropdown menu), and Zip Code. There is also a checkbox for 'Include Co-Principal Investigator in name search'. The 'Principal Investigator First Name' field is highlighted with a yellow dashed border.

- Advanced search can be used to search specific data.
For ex: To view the awards that were awarded to institutions located in the state of Alaska, select 'Alaska' from the State dropdown and click 'Search'.

A screenshot of the 'Recipient Information' section of the advanced search form, similar to the one above. In this version, the 'State' dropdown menu is highlighted with a green oval, and 'Alaska' is selected. Below this section, the 'Program Information' section is partially visible.

Advanced Search using API

- API can also be used to get the awards that were awarded to institutions in the state of Alaska by passing the `awardeeStateCode` in the URL.

[http://api.nsf.gov/services/v1/awards.json?awardeeStateCode=AK&printFields=rpp,offset,agency,awardAgencyCode,fundsObligatedAmt,awardeeName,awardeeCity,awardeeCountryCode,awardeeStateCode,awardeeZipCode,date,pdPIName,dunsNumber,id,coPDPI,expDate,startDate,](http://api.nsf.gov/services/v1/awards.json?awardeeStateCode=AK&printFields=rpp,offset,agency,awardAgencyCode,fundsObligatedAmt,awardeeName,awardeeCity,awardeeCountryCode,awardeeStateCode,awardeeZipCode,date,pdPIName,dunsNumber,id,coPDPI,expDate,startDate)

- All the input parameters and output fields of the API are defined in the below page
<https://resources.research.gov/common/webapi/awardapisearch-v1.htm>



Request Parameters

Parameter	Required	Argument	Value
Keyword	No	keyword	Free text search across all the available awards data
Results Per Page	No	rpp	Value in the range of 1 to 25. Default Value is set to 25 & it's the upper limit as well.
Record Offset	No	offset	Enter the record offset (always starts with 1). This is used in conjunction with results per page to fetch large data sets in chunks. For example, if a search produces 82 results and the result per page is set to 25, this will generate 4 set of pages. 3 pages will have 25 results and the last page will have 7 results. Record offset value will be Page 1: offset=1 Page 2: offset=26 Page 3: offset=51 Page 4: offset=76
JSONP Callback	No	callback	Provide the name of the callback function (ex. processJson)
Print Fields	No	printFields	Comma separated output print field names required in the output (ex. awardeeName,id,pdPIName). Click Output Fields to see the complete list of print fields
Award Unique Identifier	No	id	An award unique identifier to retrieve the information (ex. 1336650). This field is required, if ProjectOutcomes is requested for an award resource.
Agency Name	No	agency	NSF NASA
Awardee City Name	No	awardeeCity	Awardee city name(ex. Arlington)
Awardee Country Code	No	awardeeCountryCode	AU BD BR CA GM SW SZ UK US USA
Awardee Congressional District Code	No	awardeeDistrictCode	Awardee congressional district code. Appended value of state abbreviation and congressional district code (ex. VA01,NY22)
Awardee Name	No	awardeeName	Name of the entity receiving award (ex, "university+of+south+florida") ... results: Description Notes
Awardee State Code	No	awardeeStateCode	Abbreviation of the awardee state (ex. VA)



Some API examples

- The below URL will retrieve awards that started between '09/30/2023' and '09/30/2024'
- <https://www.research.gov/awardapi-service/v1/awards.xml?printFields=id,date&startDateStart=09/30/2023&startDateEnd=09/30/2024>
- We can add the required output fields specified in the API help page to the URL as needed.
- <https://www.research.gov/awardapi-service/v1/awards.xml?printFields=id,date,awardeeName,startDate%20&startDateStart=09/30/2023&startDateEnd=09/30/2024>
- The below URL will retrieve awards awarded to "University of Pittsburgh" which started between '01/01/2020' and '09/30/2022'
- <http://api.nsf.gov/services/v1/awards.json?awardeeName=University+of+Pittsburgh&startDateStart=01/01/2020&startDateEnd=09/30/2022&printFields=rpp,offset,agency,awardAgencyCode,fundsObligatedAmt,awardeeName,awardeeCity,awardeeCountryCode,awardeeStateCode,awardeeZipCode,date,pdPName,dunsNumber,id,coPDPI,expDate,startDate,title,abstractText&rpp=25&offset=1>





Glossary and Important Links

The following is a list of terms used throughout this document and their definitions

Terms	Definition
ETL	Extract, Transform and Load
IDOL™	Intelligent Data Operating Layer™
SAS DI	SAS Data Integration

Important links

NSF Award Search

<https://www.nsf.gov/awardsearch/simpleSearch.jsp>

API Help Page

<https://resources.research.gov/common/webapi/awardapisearch-v1.htm>

