

UA-Readiness of Open Source Code Pilot

Conducted by
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& Governance Primer

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Introduction

This pilot initiative aims to evaluate strategies that can help discover and improve UA-associated code in open source software, namely procedures related to email addresses and domain names. The complete dataset comprises all projects in the Java and Python programming languages that were properly catalogued in the Github repository in 2020, with the exception of a Python use case which is described below in a separate section.

Github is the largest public code repository in the world with over 37 million open projects hosted on its platform since the service's start in 2008¹. As a result, the crawl of such a database is not a trivial task. Java and Python rank among the top languages used in the open source world as of early 2021, and our findings indicate that there are around 2 million projects coded in these languages on Github that can be considered valid for evaluation.

A crawler was coded (in Python) with the purpose of discovering all dependencies/libraries that these projects rely on, and recording those which are the most utilized. This provides a baseline for further initiatives to target prioritization of work towards high demand components. It also enabled the mapping of the deployment of libraries that facilitate UA-associated actions, such as is the case of the IDNA family of libraries. A search for RegEx arbitrary validation code was also performed against the top 10,000 most relevant projects of each language in order to obtain a sample of whether ad-hoc validation procedures are being employed by impactful developers.

The presence of a “dependencies” file is an open source standard strongly recommended by Github, so that projects can have their source codes successfully compiled by third parties. The repository's supported package ecosystem recommendations were followed by our study; only projects that make use of *Maven* for Java and *Pip* for Python² are presented in the dataset. These specifications need to be followed when crawling Github so that the properties of projects are identified reliably, including the languages they are coded in. This also minimizes garbage data aggregation to a great extent.

For all purposes related to Universal Acceptance (UA), the following three UA verbs were considered: Accept, Validate, Process. Both Store and Display were deemed out of scope due to the complexity of testing them in a manner that would produce meaningful results as there are a high number of variables associated with them, particularly where Display is concerned.

An important companion document to this study is UASG018A³ “Universal Acceptance Compliance of Some Programming Language Libraries and Frameworks,” which details extensive testing of some of the libraries explored here. We also make use of research data from other studies by Viagénie⁴.

¹ <https://github.com/search?q=is:public>

² <https://web.archive.org/web/20200630173757/https://help.github.com/en/github/visualizing-repository-data-with-graphs/listing-the-packages-that-a-repository-depends-on>

³ <https://uasg.tech/wp-content/uploads/documents/UASG018A-en-digital.pdf>

⁴ <https://viagenie.ca/ua/>



In this document we present some key findings and samples from the aggregate data, as well as links to the complete datasets generated during this research so that further studies can advance this pilot initiative. Recommendations were also made to the Universal Acceptance Steering Group (UASG) and its community, with a focus on how to make ideal use of the data to achieve progress in UA deployment. Considerations are also presented on how to effectively carry out future projects of this nature, particularly in relation to the difficulties of working with third parties with whom the UASG does not have an explicit partnership with.

Executive Summary

After crawling the Github repository to catalogue the dependencies found in software from the Java and Python languages, these are the key results found, with the presence of a library not being mutually exclusive with the presence of another:

Java UA-associated libraries occurrence rate

Library	Occurrence in projects
hibernate-validator	62963
validation-api	25190
springfox-bean-validators	12501
commons-validator	4906
icu4j	886
libidn	29

Occurrence in entire dataset: 70,182; approx. 6%.

RegEx via annotations seems to be a popular method of performing validation in Java, which is unfavorable to the UASG's interests. *validation-api* ranks 54th overall in terms of usage, and its derivative *hibernate-validator* places even higher at 21st. *springfox-bean-validators* also ranks quite high at 78th.

Python UA-associated libraries occurrence rate

Library	Occurrence in projects
idna module	70789
email_validator	1178
validators	1660
PyICU	243
idna_ssl	10

Occurrence in entire dataset: 70,813; approx. 37%.

Out of the entire Python dataset, the *idna* module ranks 6th overall in terms of usage, which can be seen as a favorable result to the UASG's interests. It can also be a key argument in engaging with the Python language developers to port that module to the language's core, replacing the default IDNA2003 implementation.



Dataset

MongoDB was chosen as the database for this project due to previous success employing it in UASG025⁵. It proved flexible, easy to maintain, and easy to export to platform-agnostic formats. The complete dataset containing the output of the Java and Python crawl procedures are available as JSON files in the following links:

- [UA-Readiness of Open-Source Code Pilot – Java complete dataset](#)
- [UA-Readiness of Open-Source Code Pilot – Python complete dataset](#)

The following Github-issued datapoints were deemed relevant for the UASG's purposes:

- **repository.full_name**: Combines the name of the repository owner with the project's name in the following pattern: "owner/project".
- **repository.id**: Unique ID for a repository within Github.
- **repository.created_at**: Creation time of the repository in the following pattern: "YYYY-MM-DDtHH:HH:HHz".
- **repository.updated_at**: Last known update time of the repository in the same pattern as *repository.created_at*.
- **owner.login**: Name of the repository owner.
- **owner.url**: Direct URL to the repository owner's Github page.
- **repository.watchers_count**: Number of users who have chosen to actively follow the discussions in a project, receiving notifications when changes are made.
- **repository.startgazers_count**: Number of users who have chosen to bookmark or show their support for the project.
- **repository.forks_count**: Number of times the project's codebase has been cloned to be iterated upon.

In addition to the above, the team came up with additional datapoints to provide more context to the dataset:

- **dependencies**: Comma-separated list of all stated dependencies that a given projects has, including frameworks, libraries, etc.
- **relevance**: An arbitrarily calculated relevance score intended to track the most impactful projects in Github, considering that the repository itself does not provide comprehensive rankings of the top projects. The relevance score is based on the following formula:

$$\text{relevance} = (\text{watchers_count} + \text{stargazers_count} + (2.0387110222037 * \text{forks_count})) / 4.0387110222037$$

- **has_idn_lib**: Signals when, among its dependencies, the project has a known UA-associated library. Namely:
 - **Java**: icu4j, commons-validator, validation-api, springfox-bean-validators, hibernate-validator, libidn (deprecated).
 - **Python**: idna (module), PyICU, idna_ssl, email_validator, validators.
- **idn_libs**: If one or more UA-associated libraries were found they are listed here.
- **has_regex**: A crawl for common RegEx validation patterns was performed targeting the (arbitrarily calculated according to the formula above) top 10,000 most relevant projects from each language. The results are presented as "TRUE" or "FALSE".

⁵ <https://uasg.tech/wp-content/uploads/documents/UASG025-en-digital.pdf>



- **regexes:** If one or more RegExes were found they are listed here for inspection.

General Considerations

Acceptance levels are difficult to measure with precision using a crawler alone. This is largely due to the fact that code can behave in unpredictable ways once compiled or executed, and interactions between different libraries can create problems of their own depending on how they are implemented. Considering the scale of a repository the size of Github, it is impractical or impossible to perform granular tests.

However, some assumptions can be made by taking into account what dependencies a given project has. Many of the projects in active development are based on a few popular building blocks, some of which the UASG has already tested and others that it should prioritize to test in the near future. The combination of such datapoints can lead to reasonable assumptions regarding a given software's compliance level.

To give an example using Java: UASG018A tells us that the *google/guava* core libraries⁶ are only fully compliant with IDNA2003, so unless the project has in its dependencies a library known to be focused on enabling IDN usage (such as *icu4j*), it can be assumed that the project is not UA-ready. This will not be true every time, but it will be true most times.

On this subject, it is also important to ponder what can be inferred in general terms when libraries that are focused on enabling IDN usage are found. Any given project could incorrectly implement these libraries in their codebase, resulting in software that will still fail to be UA-ready. However, the presence of such libraries signals to the UASG that the maintainers of a given project are aware of UA to some extent, and are therefore more likely to be receptive of recommendations to improve their software. The presence of these libraries can therefore be seen as a strong indicator of interest in engaging with these issues.

Action Plan

The suggested method to use the findings of this study in an optimal manner that advances UA readiness is as follows.

First, the arbitrary “relevance” score should provide an impression of what the top projects for each language are, helping to determine which of them should receive more attention in future UASG actions. This datapoint should not be considered a straightforward descending list as anomalies can significantly affect the score of a project. For example, projects that are examples from educational coding books/courses have high engagement and many forks, but this does not necessarily make them pertinent to the UASG's goals.

Second, the following datapoints should be considered a priority for evaluation: “has_idn_lib”, “idn_libs”, “has_regex”, and “regexes”. While in effect these will be present in a minority of projects, they are still our strongest data-driven indicators of a project having

⁶ <https://github.com/google/guava>



significance to UA. Once checked by a human for relevance, there are three possible outcomes:

- **If ad-hoc code is found in the form of a RegEx:** contact the project and suggest the incorporation of a suitable library.
- **If older noncompliant libraries are found:** contact the project and propose that they upgrade to a better library.
- **If an up-to-date library is found or if the project is based on a framework known to be good:** contact the project and invite them to become certified as UA-compliant, as per the recommendations of the UASG EAI Working Group.

Third, an official action plan needs to be established between the different UASG Working Groups and ICANN organization, so that the methodology outlined above is carried out in a systematic, regular manner. This could be enacted by means of a combination of voluntary and compensated activities with the following suggested structure:

- Outreach, communication with developers, following up and tracking engaged developers, organization of sessions/workshops in IT/coding events: ICANN org, UASG Communications, Technology, and Local Initiatives working groups.
- Drafting of SOWs for subsequent efforts, generation of solutions to issues raised by developers, tracking the evolution of UA-Readiness in frameworks/libraries: ICANN org, UASG Measurement and EAI working groups.

Java

Scope: Our dataset contemplates around 1.3 million dependency files.
“has_idn_lib” occurrence in entire dataset: 70,182; approx. 6%.

The *java.net.IDN* class is based on RFC 3490, providing Java with native support to IDNA2003⁷. This code originates from *libidn* (GNU IDN library), which was ported to the programming language circa 2004. The implementation of IDNA2008 is left to developers, who need to integrate a relevant library into their software or build upon a UA-ready framework and make use of its functions.

In this study, we consider the Java UA-associated libraries to be:

Short name	Long name	Status (Source)
icu4j	International Components for Unicode	IDNA2008 (UASG018A)
libidn	GNU IDN	IDNA2003, deprecated and ported to the Java language as “ <i>java.net.IDN</i> ”. (Documentation)
commons-validator	Apache Commons Validator	Relies on a static list of TLDs from 2017. (UASG018A)
validation-api	Jakarta Bean Validation	IDNA2003 implied, RegEx via annotations. (Documentation)

⁷ <https://docs.oracle.com/javase/9/docs/api/java/net/IDN.html>



springfox-bean-validators	SpringFox Bean Validators for Swagger	IDNA2003 implied, RegEx via annotations; SpringFox implementation of <i>validation-api</i> . (Documentation)
hibernate-validator	Hibernate Validator	IDNA2003 implied, RegEx via annotations; Hibernate implementation of <i>validation-api</i> . (Documentation)

The inclusion of *validation-api*, as well as *springfox-bean-validators* and *hibernate-validator*, is because they rank within the top 100 most used libraries in the Java dataset. These libraries are fundamentally flawed for the purpose of achieving UA readiness, as they are based on the Bean Validation 2.0 specification ([JSR 380](#)), relying on RegEx via annotations to perform validation. On top of that, these RegEx can be both pre-defined (such as is the case of *@Email*) or arbitrarily defined by the developer, making it impossible to estimate whether the software is UA-ready or not without individual manual testing.

A special case is [vrsn-idna](#) (Verisign IDN SDK), which has been tested by Viagénie and was found to be fully compliant with IDNA2008. However, its adoption was not significant enough to be measured in our tests. This is due to the fact that this library does not have a Maven repository, which keeps it away from the hands of open source developers. This issue is discussed in more depth in the Recommendations section of this study.

Additionally, Japan Registry Services (JPRS) provides a library known as [idnkit](#) that did not return any results and seems to be inactive since 2014; a library called [libidn2](#) (GNU libidn2) is in active development, but did not return a meaningful number of results to warrant being included in the study.

Apart from the libraries outlined above, UASG018A also studied two others that did not meet our selection criteria: *google/guava* (Guava) and *jakarta.mail* (Jakarta Mail).

Therefore, their presence within a project's dependencies does not result in a TRUE flag being set for "has_idn_lib" in the dataset. The reasoning behind their exclusion was that these libraries do not focus on the facilitation of UA-associated tasks as they are smaller parts of larger packages. For completeness, this is their status:

Short name	Long name	Status (Source)
google/quava	Google Guava	IDNA2003 (UASG018A)
jakarta.mail	Jakarta Mail	IDNA2008 (UASG018A)

Brief Status Analysis of Java

RegEx via annotations seems to be a popular method of performing validation in Java, which is unfavorable to the UASG's interests. *validation-api* ranks 54th overall in terms of usage, and its derivative *hibernate-validator* places even higher at 21st. *springfox-bean-validators* also ranks quite high at 78th.

Maven/POM

Maven is a build automation tool considered to be the golden standard for Java. To build any given project, it makes use of the information contained within an XML file named



“pom.xml”⁸, which relies on the Project Object Model (POM) standard. These files contain basic coordinates at minimum including a unique identifier and the project’s dependencies. Any library that is needed for the software to function just needs to be declared as a dependency for Maven to download both the library and any dependencies the library itself might have (transitive dependencies).

Java Projects

In Appendix 3, we provide the top 500 Java projects (sorted by relevance) as a small sample of the data collected which is intended to serve as an example of the study’s findings.

For the complete dataset, please refer to the link presented earlier in this document on the Dataset section entitled “UA-Readiness of Open-Source Code Pilot – Java complete dataset”.

For a list of the top 10,000 most relevant aggregated projects, please refer to this CSV file: [UA-Readiness of Open-Source Code Pilot – Java top 10k projects](#).

Java Dependencies

For the complete list of aggregated dependencies isolated from the context of their projects, please refer to this CSV file: [UA-Readiness of Open-Source Code Pilot – Java dependencies only](#).

Top 100 dependencies in Java projects by occurrence – library families and versions merged

This is a list that roughly merges all of the components and versions of each top Java library into single entries. It aims to determine the most popular libraries in use and, therefore, which ones are a priority to engage with.

Rank	Dependency
1	junit
2	mysql-connector-java
3	spring-boot-starter (family)
4	lombok
5	spring (family)
6	commons-lang (2 and 3)
7	jstl
8	slf4j
9	log4j
10	javax.servlet-api
11	commons-io
12	jackson-databind
13	h2

⁸ Although until version 2 it was named “project.xml”.



14	fastjson
15	gson
16	hibernate-core
17	spring-tx
18	commons-fileupload
19	servlet-api
20	mybatis
21	hibernate-validator
22	guava
23	springfox-swagger2
24	mybatis-spring
25	logback-classic
26	postgresql
27	jsp-api
28	jackson-core
29	selenium-java
30	mybatis-spring-boot-starter
31	gson
32	testng
33	httpclient
34	hibernate-entitymanager
35	druid
36	springfox-swagger-ui
37	aspectjweaver
38	commons-codec
39	httpclient
40	commons-dbcp
41	poi
42	jcl-over-slf4j
43	poi-ooxml
44	aspectjrt
45	assertj-core
46	jackson-annotations
47	commons-logging
48	jackson-mapper-asl
49	mockito-all
50	jedis
51	javax.inject
52	c3p0
53	json-path
54	validation-api
55	commons-collections



56	jjwt
57	mail
58	standard
59	tomcat-embed-jasper
60	javaee-web-api
61	junit-jupiter-engine
62	hsqldb
63	jackson-datatype-jsr310
64	HikariCP
65	jaxb-api
66	cucumber-junit
67	hamcrest-all
68	cucumber-java
69	ehcache
70	json-simple
71	shiro-spring
72	dom4j
73	javax.servlet.jsp-api
74	json-lib
75	liquibase-core
76	metrics-core
77	logstash-logback-encoder
78	springfox-bean-validators
79	jackson-datatype-hppc
80	hamcrest-core
81	scala-library
82	commons-httpclient
83	cache-api
84	jackson-datatype-hibernate5
85	mapstruct-jdk8
86	jackson-module-afterburner
87	hibernate-envers
88	problem-spring-web
89	activation
90	hibernate-jpa-2.1-api
91	hibernate-jpamodelgen
92	velocity
93	flyway-core
94	metrics-servlets
95	jta
96	aopalliance
97	jhipster-framework



98	reactor-test
99	micrometer-registry-prometheus
100	extentreports

Java UA-associated Libraries Occurrence Rate

In this table, the libraries considered to be UA-associated by the study are listed along with the number of times they appear in the dataset and with components and versions merged into single entries.

Library	Occurrence in projects
hibernate-validator	62963
validation-api	25190
springfox-bean-validators	12501
commons-validator	4906
icu4j	886
libidn	29

Python

Scope: Our dataset contemplates around 190,000 dependency files (or 450,000 if branches that do not differ significantly from their parent project are counted).

“has_idn_lib” occurrence in entire dataset: 70,813; approx. 37%.

Python’s core package *encodings.idna* is similar to *java.net.IDN* based on RFC 3490 and providing native support to IDNA2003⁹. Unlike in Java’s case, it was never a standalone library as far as we can tell, and no traces of it can be found in dependency files. IDNA2008 implementation is also left to developers, although in this case, there seems to be a more straightforward solution to be found in the *idna* module which provides UA readiness by replacing the core package in a seamless manner.

In this study, we consider the Python UA-associated libraries to be:

Short name	Long name	Status (Source)
idna	IDNA module	IDNA2008 (UASG018A)
pyicu	International Components for Unicode	IDNA2008 (Documentation)
idna_ssl	IDNA SSL	IDNA2008 (Documentation)
email_validator	Email Validator	IDNA2008 (UASG018A)
validators	Python Data Validation for Humans	Email validation based on Django validator , Not compliant; URL validation based on regex-weurl.is , which is a RegEx. (Code analysis)

Apart from the libraries outlined above, UASG018A also studied two others that did not meet our selection criteria: *django_auth* (Django Authentication Backend) and *smtplib* (SMTP

⁹ <https://docs.python.org/3/library/codecs.html#module-encodings.idna>



Protocol Client). Therefore, their presence within a project's dependencies does not result in a TRUE flag being set for "has_idn_lib" in the dataset. The reasoning behind their exclusion was that these libraries do not focus on the facilitation of UA-associated tasks as they are smaller parts of larger packages. For completeness, this is their status:

Short name	Long name	Status (Source)
django_auth	Django Authentication Backend	Not compliant. (UASG018A)
smtplib	SMTP Protocol Client	Partially compliant. (UASG018A)

Brief Status Analysis of Python

Out of the entire Python dataset, the *idna* module ranks 6th overall in terms of usage, which can be seen as a favorable result to the UASG's interests. It can also be a key argument in engaging with the Python language developers to port that module to the language's core, replacing the default IDNA2003 implementation.

Pip/Requirements

Pip is a package-management system that ships with most distributions of Python and comes preinstalled in the official Python 3 distribution. While it can be configured to work with different repositories, for the purposes of this study, we work exclusively with the Python Package Index (PyPi) as it is the official repository for the programming language overall. One disadvantage it has compared to Java is that there is no single requirements standard like POM, so analysis has to be performed on different types of documents.

From Github's perspective, the three possible sources for dependencies in Python are: "requirements.txt", "pipfile.lock", and "setup.py". Both "requirements.txt" and "pipfile.lock" are reasonably straightforward, but "setup.py", as its name implies, is an actual Python script. For our purposes, crawling these files at scale is unviable as it would require a substantial amount of additional processing power.

Our dataset is composed 80% out of "requirements.txt" and 20% out of "pipfile.lock".

Python Projects

In Appendix 4, we provide the top 500 Python projects (sorted by relevance) as a small sample of the data collected which is intended to serve as an example of the study's findings.

For the complete dataset, please refer to the link presented earlier in this document on the Dataset section entitled "UA-Readiness of Open-Source Code Pilot – Python complete dataset".

For a list of the top 10,000 most relevant aggregated projects, please refer to this CSV file: [UA-Readiness of Open-Source Code Pilot – Python top 10k projects](#).

Python Dependencies

For the complete list of aggregated dependencies isolated from the context of their projects, please refer to this CSV file: [UA-Readiness of Open-Source Code Pilot – Python dependencies only](#).



Top 100 dependencies in Python projects by occurrence – library families and versions merged

This is a list that roughly groups all of the components and versions of each top Python library into single entries. It aims to determine the most popular libraries in use and, therefore, which ones are a priority to engage with.

It is worth noting that *idna* is the 6th most popular library in the entirety of Github's Python universe.

Rank	Dependency
1	six
2	requests
3	pytz
4	certifi
5	urllib3
6	idna
7	chardet
8	Jinja2
9	MarkupSafe
10	python-dateutil
11	numpy
12	click
13	pyparsing
14	Werkzeug
15	Flask
16	attrs
17	jupyter
18	Pygments
19	wcwidth
20	pandas
21	decorator
22	itsdangerous
23	matplotlib
24	PyYAML
25	scipy
26	traitlets
27	pickleshare
28	ipython-genutils
29	prompt-toolkit
30	mccabe
31	wrapt
32	tornado



33	gunicorn
34	jsonschema
35	cff
36	entrypoints
37	pycparser
38	pexpect
39	packaging
40	cycler
41	webencodings
42	bleach
43	ptyprocess
44	sqlparse
45	backcall
46	isort
47	colorama
48	pylint
49	nbformat
50	defusedxml
51	mistune
52	nbconvert
53	lazy-object-proxy
54	astroid
55	notebook
56	kiwisolver
57	py
58	zipp
59	terminado
60	pandocfilters
61	pycodestyle
62	testpath
63	docutils
64	pluggy
65	pyasn1
66	ipywidgets
67	widgetsnbextension
68	Send2Trash
69	future
70	oauthlib
71	pyrsistent
72	prometheus-client
73	typed-ast
74	jupyter-console



75	requests-oauthlib
76	pyflakes
77	h5py
78	pyasn1-modules
79	html5lib
80	toml
81	appdirs
82	termcolor
83	rsa
84	asn1crypto
85	simplegeneric
86	atomicwrites
87	appnope
88	dj-database-url
89	xlrd
90	nose
91	sklearn
92	filelock
93	alabaster
94	blinker
95	singledispatch
96	pycrypto
97	google-auth-oauthlib
98	et-xmlfile
99	enum34
100	docopt

Python UA-associated Libraries Occurrence Rate

In this table, the libraries considered to be UA-associated by the study are listed along with the number of times they appear in the dataset and with components and versions merged into single entries.

Library	Occurrence in projects
idna module	70789
email_validator	1178
validators	1660
PyICU	243
idna_ssl	10



Recommendations

In this section, we present recommendations to the UASG and its community on what the next steps should be and lessons learned over the course of the development of this pilot project.

On the Viability of Testing Third Party Platforms

While the very nature of the work carried out by the UASG makes it necessary to test content generated by third parties, there are considerations to be made in relation to working with a platform the size of Github without establishing a formal partnership or drafting a memorandum of understanding with its maintainers or owners.

Often the official documentation provided by Github for their API and systems proved insufficient to inform the tasks at hand; and a lack of up-to-date documentation is not a problem exclusive to this platform. We proceeded to contact different levels of support staff and engage with professionals holding various positions within the company, but frequently did not find the necessary answers. This resulted in the team diverting its energy towards finding novel solutions to issues that should, in principle, be trivial to deal with.

The most significant issue faced was performing the crawl job without triggering different security measures that terminated our connection and blocked our access temporarily. While this is a sound practice to stop bad actors from meddling with the platform, figuring out the correct way to work around these measures required extensive research and a slowing down of the crawl job that could have been avoided either by the platform providing the team with the required information or by our machine(s) being whitelisted to perform a larger number of queries.

Due consideration should be given to these matters in future studies.

On Performing Tests Beyond the Pilot Program

While the team is submitting the source code of the crawler to the UASG as a deliverable, it is unknown whether further studies can be performed using it without adaptations, as we have already started to observe changes to the Github API in the time since the crawling portion of the study was completed.

If a new SOW is to be drafted using this methodology to research other programming languages, reasonable expectations should be established in relation to the potential need to refactor the code or change certain processes entirely. The work will not need to be restarted from scratch, but the crawler will probably not work in a plug-and-play manner. This can be mitigated by following the recommendation above and attempting to establish a direct line of communication with Github. With the help of an engineer from their ranks who has the project explained to them and can provide meaningful input, this task should be greatly facilitated.

On *vrsn-idna* for Java

Both this study and UASG018A found the *vrsn-idna* Java library to be suitable for providing UA readiness. However, as discussed earlier in the document, this library does not have its own Maven repository, which limits its exposure to developers. UASG018A also cites that



“processing of domains is slow,” but that could likely be improved with some enhancements to the codebase.

Given that Verisign is a UASG partner, this study suggests that discussions be carried out between both parties and that a plan is established to improve the library’s visibility. This will enable more choice for developers and help maintain a library for which the UASG will have expert advice on hand to help with implementation.

More information on how to deploy an artifact to Maven’s Central Repository can be found [here](#).

Research Team

This project was carried out in partnership between [Governance Primer](#) and the [Brazilian Association of Software Companies \(ABES\)](#) over the course of 2020.

Members: Mark W. Datysgeld, Sávyo Vinícius de Moraes, Edson Celio Ferreira Araujo, Jonas Mendes Fiorini



Appendix 1: Java – Manual Tests of Libraries

ityouknow/spring-boot-examples

has_idn_lib: FALSE

idn_libs: FALSE

has_regex: FALSE

regexes: FALSE

Input	Accept	Validate	Process
info1@ua-test.link	Yes	Yes	Yes
info2@ua-test.technology	Yes	Yes	Yes
info3@普遍接受-测试.top	Yes	Yes	No*
info4@ua-test.世界	Yes	Yes	No*
info5@普遍接受-测试.世界	Yes	Yes	No*
uasg.tech@डेटामेल.भारत	Yes	Yes	No**
info5@普遍接受-测试。世界	Yes	Yes	No**
info4@ua-test.xn--rhqv96g	Yes	Yes	Yes
info3@xn----f38am99bqvcd5liy1cxsg.top	Yes	Yes	Yes
info5@xn----f38am99bqvcd5liy1cxsg.xn--rhqv96g	Yes	Yes	Yes
info6@القبولالعالمي-اختبار.top	Yes	Yes	No*
info7@القبولالعالمي-اختبار.شبكة	Yes	Yes	No*
user@رسيل.السعودية	Yes	Yes	No*
测试1@ua-test.link	Yes	Yes	No*
测试2@ua-test.technology	Yes	Yes	No*
测试3@普遍接受-测试.top	Yes	Yes	No*
测试4@ua-test.世界	Yes	Yes	No*
测试5@普遍接受-测试.世界	Yes	Yes	No*
युएसजी@डेटामेल.भारत	Yes	Yes	No**
测试5@普遍接受-测试。世界	Yes	Yes	No**
测试4@ua-test.xn--rhqv96g	Yes	Yes	No*
测试3@xn----f38am99bqvcd5liy1cxsg.top	Yes	Yes	No*
测试5@xn----f38am99bqvcd5liy1cxsg.xn--rhqv96g	Yes	Yes	No*
测试6@القبولالعالمي-اختبار.top	Yes	Yes	No*
دون@رسيل.السعودية	Yes	Yes	No*
مستخدم@رسيل.السعودية	Yes	Yes	No*

* Caused by a call made by org.springframework.mail.javamail.JavaMailSenderImpl.doSend() to the function javax.mail.Transport.sendMessage(). JavaX is no more part of Java Core since Java 8, and it was imported by SpringBoot

** Caused by a call made by org.springframework.mail.javamail.MimeMessageHelper.parseAddress() to the function javax.mail.internet.InternetAddress.parse(). JavaX is no more part of Java Core since Java 8, and it was imported by SpringBoot



alibaba/druid

has_idn_lib: FALSE

idn_libs: FALSE

has_regex: FALSE

regexes: FALSE

Input	Accept	Validate	Process
jdbc:h2:tcp://ua-test.link:7721/file:/tmp/我的页面	Yes	Yes	Yes
jdbc:h2:tcp://ua-test.technology:7721/file:/tmp/我的页面	Yes	Yes	Yes
jdbc:h2:tcp://普遍接受-测试.top:7721/file:/tmp/我的页面	Yes	Yes	No*
jdbc:h2:tcp://ua-test.世界:7721/file:/tmp/我的页面	Yes	Yes	No*
jdbc:h2:tcp://普遍接受-测试.世界:7721/file:/tmp/我的页面	Yes	Yes	No*
jdbc:h2:tcp://普遍接受-测试。世界:7721/file:/tmp/我的页面	Yes	Yes	No*
jdbc:h2:tcp://ua-test.xn--rhqv96g:7721/file:/tmp/我的页面	Yes	Yes	No**
jdbc:h2:tcp://xn----f38am99bqvcd5liy1cxsg.top:7721/file:/tmp/我的页面	Yes	Yes	No**
jdbc:h2:tcp://xn----f38am99bqvcd5liy1cxsg.xn--rhqv96g:7721/file:/tmp/我的页面	Yes	Yes	No**
jdbc:h2:tcp://اختبار-القبولالعالمي.top:7721/file:/tmp/我的页面	Yes	Yes	No*
jdbc:h2:tcp://7721:اختبار.شبكة/القبولالعالمي/file:/tmp/我的页面	Yes	Yes	No*

* Caused by a call made by org.h2.util.NetUtils.createSocket() to the function java.net.InetAddress.getByName()

** Caused by a limitation in local DNS resolver, which does not considers ASCII punycode == UTF-8

netty/netty-dns-resolver

has_idn_lib: FALSE

idn_libs: FALSE

has_regex: FALSE

regexes: FALSE

Input	Accept	Validate	Process
ua-test.link	Yes	Yes	Yes
ua-test.technology	Yes	Yes	Yes
普遍接受-测试.top	Yes	Yes	Yes
ua-test.世界	Yes	Yes	Yes
普遍接受-测试.世界	Yes	Yes	Yes
普遍接受-测试。世界	Yes	Yes	Yes
ua-test.xn--rhqv96g	Yes	Yes	Yes
xn----f38am99bqvcd5liy1cxsg.top	Yes	Yes	Yes
xn----f38am99bqvcd5liy1cxsg.xn--rhqv96g	Yes	Yes	Yes*
اختبار-القبولالعالمي.top	Yes	Yes	Yes*
القبولالعالمي-اختبار.شبكة	Yes	Yes	Yes*

* Has shown a limitation in local DNS resolver, which does not considers ASCII punycode == UTF-8



** Converts UTF-8 to ASCII punycode

apache/dubbo-samples

has_idn_lib: FALSE

idn_libs: FALSE

has_regex: FALSE

regexes: FALSE

Input	Accept	Validate	Process
ua-test.link	Yes	Yes	Yes
ua-test.technology	Yes	Yes	Yes
普遍接受-测试.top	Yes	Yes	Yes
ua-test.世界	Yes	Yes	Yes
普遍接受-测试.世界	Yes	Yes	Yes
普遍接受-测试。世界	Yes	Yes	Yes
ua-test.xn--rhqv96g	Yes	Yes	Yes*
xn----f38am99bqvcd5liy1cxsg.top	Yes	Yes	Yes*
xn----f38am99bqvcd5liy1cxsg.xn--rhqv96g	Yes	Yes	Yes*
القبولالعالمي-اختبار.top	Yes	Yes	Yes
القبولالعالمي-اختبار.شبكة	Yes	Yes	Yes

* We had to set up a punycode domain to process it properly due to a limitation in local DNS resolver, which does not considers ASCII punycode == UTF-8

xuxueli/xxl-job

has_idn_lib: FALSE

idn_libs: FALSE

has_regex: FALSE

regexes: FALSE

Input	Accept	Validate	Process
http://ua-test.link:9998	Yes	Yes	Yes
http://ua-test.technology:9998	Yes	Yes	Yes
http://普遍接受-测试.top:9998	Yes	Yes	Yes
http://ua-test.世界:9998	Yes	Yes	Yes
http://普遍接受-测试.世界:9998	Yes	Yes	Yes
http://普遍接受-测试。世界:9998	Yes	Yes	Yes
http://ua-test.xn--rhqv96g:9998	Yes	Yes	Yes*
http://xn----f38am99bqvcd5liy1cxsg.top:9998	Yes	Yes	Yes*
http://xn----f38am99bqvcd5liy1cxsg.xn--rhqv96g:9998	Yes	Yes	Yes*
http://القبولالعالمي-اختبار.top:9998	Yes	Yes	Yes
http://9998:القبولالعالمي-اختبار.شبكة	Yes	Yes	Yes

* Has shown a limitation in local DNS resolver, which does not considers ASCII punycode == UTF-8

looly/hutool

has_idn_lib: FALSE



idn_libs: FALSE
has_regex: FALSE
regexes: FALSE

Input	Accept	Validate	Process
http://ua-test.link/我的页面	Yes	Yes	Yes
http://ua-test.technology/我的页面	Yes	Yes	Yes
http://普遍接受-测试.top/我的页面	Yes	Yes	No*
http://ua-test.世界/我的页面	Yes	Yes	No*
http://普遍接受-测试.世界/我的页面	Yes	Yes	No*
http://普遍接受-测试。世界/我的页面	Yes	Yes	No*
http://ua-test.xn--rhqv96g/我的页面	Yes	Yes	Yes
http://xn----f38am99bqvcd5liy1cxsg.top/我的页面	Yes	Yes	Yes
http://xn----f38am99bqvcd5liy1cxsg.xn--rhqv96g/我的页面	Yes	Yes	No*
http://القبولالعالمي-اختبار.top/我的页面	Yes	Yes	No*
http://القبولالعالمي-اختبار.شبكة/我的页面	Yes	Yes	No*

* Caused by a call to java.net.URLConnection.connect() that threw an UnknownHostException.

spring-projects/spring-petclinic

has_idn_lib: FALSE
idn_libs: FALSE
has_regex: FALSE
regexes: FALSE

Input	Accept	Validate	Process
http://localhost:8080/owners?lastName=صفحتي	Yes	Yes	Yes
http://localhost:8080/owners?lastName=我的页面	Yes	Yes	Yes

IQSS/dataverse

has_idn_lib: TRUE
idn_libs: commons-validator/1.6, hibernate-validator/5.0.3.Final
has_regex: FALSE
regexes: FALSE

Input	Accept	Validate	Process
http://ua-test.link/我的页面	Yes	Yes	Yes
http://ua-test.technology/我的页面	Yes	Yes	Yes
http://普遍接受-测试.top/我的页面	Yes	Yes	No*
http://ua-test.世界/我的页面	Yes	Yes	No*
http://普遍接受-测试.世界/我的页面	Yes	Yes	No*
http://普遍接受-测试。世界/我的页面	Yes	Yes	No*
http://ua-test.xn--rhqv96g/我的页面	Yes	Yes	Yes
http://xn----f38am99bqvcd5liy1cxsg.top/我的页面	Yes	Yes	Yes
http://xn----f38am99bqvcd5liy1cxsg.xn--rhqv96g/我的页面	Yes	Yes	No*
http://القبولالعالمي-اختبار.top/我的页面	Yes	Yes	No*
http://القبولالعالمي-اختبار.شبكة/我的页面	Yes	Yes	No*



This project uses {commons-validator}.routines.EmailValidator

dropwizard/dropwizard

has_idn_lib: FALSE

idn_libs: FALSE

has_regex: FALSE

regexes: FALSE

Input	Accept	Validate	Process
http://localhost:8080/views/صفحتي	Yes	Yes	Yes
http://localhost:8080/views/我的页面	Yes	Yes	Yes

jhy/jsoup

has_idn_lib: FALSE

idn_libs: FALSE

has_regex: FALSE

regexes: FALSE

Input	Accept	Validate	Process
https://räksmörgås.josefsson.org/	Yes	Yes	Yes*
http://ua-test.link/我的页面	Yes	Yes	Yes*
http://ua-test.technology/我的页面	Yes	Yes	Yes*
http://普遍接受-测试.top/我的页面	Yes	Yes	Yes*
http://ua-test.世界/我的页面	Yes	Yes	Yes*
http://普遍接受-测试.世界/我的页面	Yes	Yes	Yes*
http://普遍接受-测试。世界/我的页面	Yes	Yes	Yes*

* Converts to punycode.

TooTallNate/Java-WebSocket

has_idn_lib: FALSE

idn_libs: FALSE

has_regex: FALSE

regexes: FALSE

Input	Accept	Validate	Process
ua-test.link	Yes	Yes	Yes
ua-test.technology	Yes	Yes	Yes
普遍接受-测试.top	Yes	Yes	No*
ua-test.世界	Yes	Yes	No*
普遍接受-测试.世界	Yes	Yes	No*
普遍接受-测试。世界	Yes	Yes	No*
القبولالعالمي-اختبار.top	Yes	Yes	No*
القبولالعالمي-اختبار.شبكة	Yes	Yes	No*

* caused by a call to "java.net.URI.create()"

dropwizard/metrics

has_idn_lib: FALSE

idn_libs: FALSE



has_regex: FALSE
regexes: FALSE

Input	Accept	Validate	Process
ua-test.link	Yes	Yes	Yes
ua-test.technology	Yes	Yes	Yes
普遍接受-测试.top	Yes	Yes	Yes
ua-test.世界	Yes	Yes	Yes
普遍接受-测试.世界	Yes	Yes	Yes
普遍接受-测试。世界	Yes	Yes	Yes
القبولالعالمي-اختبار.top	Yes	Yes	Yes
القبولالعالمي-اختبار.شبكة	Yes	Yes	Yes

apache/camel-examples

has_idn_lib: FALSE
idn_libs: FALSE
has_regex: FALSE
regexes: FALSE

Input	Accept	Validate	Process
ua-test.link	Yes	Yes	Yes
ua-test.technology	Yes	Yes	Yes
普遍接受-测试.top	Yes	Yes	No*
ua-test.世界	Yes	Yes	No*
普遍接受-测试.世界	Yes	Yes	No*
普遍接受-测试。世界	Yes	Yes	No*
القبولالعالمي-اختبار.top	Yes	Yes	No*
القبولالعالمي-اختبار.شبكة	Yes	Yes	No*

* Caused by a call to java.net.URI in a call made by org.apache.camel.reifier.AbstractReifier.resolveEndpoint()

NanoHttpd/nanohttpd

has_idn_lib: FALSE
idn_libs: FALSE
has_regex: FALSE
regexes: FALSE

Input	Accept	Validate	Process
http://localhost:8080/views/صفحتي	Yes	Yes	Yes
http://localhost:8080/views/我的页面	Yes	Yes	Yes

otale/tale

has_idn_lib: FALSE
idn_libs: FALSE
has_regex: FALSE
regexes: FALSE

Input	Accept	Validate	Process
info1@ua-test.link	Yes	Yes	Yes



info2@ua-test.technology	Yes	Yes	Yes
info3@普遍接受-测试.top	Yes	Yes	Yes
info4@ua-test.世界	Yes	Yes	Yes
info5@普遍接受-测试.世界	Yes	Yes	Yes
uasg.tech@डेटामेल.भारत	Yes	Yes	Yes
info5@普遍接受-测试.世界	Yes	Yes	Yes
info4@ua-test.xn--rhqv96g	Yes	Yes	Yes
info3@xn----f38am99bqvcd5liy1cxsg.top	Yes	Yes	Yes
info5@xn----f38am99bqvcd5liy1cxsg.xn--rhqv96g	Yes	Yes	Yes
info6@القبولالعالمي-اختبار.top	Yes	Yes	Yes
info7@القبولالعالمي-اختبار.شبكة	Yes	Yes	Yes
user@رسيل.السعودية	Yes	Yes	Yes
测试1@ua-test.link	Yes	No*	No**
测试2@ua-test.technology	Yes	No*	No**
测试3@普遍接受-测试.top	Yes	No*	No**
测试4@ua-test.世界	Yes	No*	No**
测试5@普遍接受-测试.世界	Yes	No*	No**
युएसजी@डेटामेल.भारत	Yes	No*	No**
测试5@普遍接受-测试.世界	Yes	No*	No**
测试4@ua-test.xn--rhqv96g	Yes	No*	No**
测试3@xn----f38am99bqvcd5liy1cxsg.top	Yes	No*	No**
测试5@xn----f38am99bqvcd5liy1cxsg.xn--rhqv96g	Yes	No*	No**
测试6@القبولالعالمي-اختبار.top	Yes	No*	No**
دون@رسيل.السعودية	Yes	No*	No**
مستخدم@رسيل.السعودية	Yes	No*	No**

* Uses HTML5 tag <input type="email">

** Not processed due to validation error



Appendix 2: Python – Manual Tests of Libraries

ansible/ansible
has_idn_lib: FALSE
idn_libs: FALSE
has_regex: FALSE
regexes: FALSE

Input	Accept	Validate	Process
ua-test.link	Yes	Yes	Yes
ua-test.technology	Yes	Yes	Yes
普遍接受-测试.top	Yes	Yes	Yes
ua-test.世界	Yes	Yes	Yes
普遍接受-测试.世界	Yes	Yes	Yes
普遍接受-测试。世界	Yes	Yes	Yes
ua-test.xn--rhqv96g	Yes	Yes	Yes
xn----f38am99bqvcd5liy1cxsg.top	Yes	Yes	Yes
xn----f38am99bqvcd5liy1cxsg.xn--rhqv96g	Yes	Yes	Yes
القبولالعالمي-اختبار.top	Yes	Yes	Yes
القبولالعالمي-اختبار.شبكة	Yes	Yes	Yes

psf/requests
has_idn_lib: TRUE
idn_libs: idna/2.9
has_regex: FALSE
regexes: FALSE

Input	Accept	Validate	Process
ua-test.link	Yes	Yes	Yes
ua-test.technology	Yes	Yes	Yes
普遍接受-测试.top	Yes	Yes	Yes
ua-test.世界	Yes	Yes	Yes
普遍接受-测试.世界	Yes	Yes	Yes
普遍接受-测试。世界	No	No	No
ua-test.xn--rhqv96g	Yes	Yes	Yes
xn----f38am99bqvcd5liy1cxsg.top	Yes	Yes	Yes
xn----f38am99bqvcd5liy1cxsg.xn--rhqv96g	Yes	Yes	Yes
القبولالعالمي-اختبار.top	No	No	No
القبولالعالمي-اختبار.شبكة	No	No	No

mirumee/saleor
has_idn_lib: TRUE
idn_libs: idna/2.10
has_regex: FALSE
regexes: FALSE

Input	Accept	Validate	Process
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Info1@ua-test.link	Yes	Yes	Yes
info2@ua-test.technology	Yes	Yes	Yes
info3@普遍接受-测试.top	No	No	No
info4@ua-test.世界	No	No	No
info5@普遍接受-测试.世界	No	No	No
uasg.tech@डामेल.भारत	No	No	No
info5@普遍接受-测试.世界	No	No	No
info6@قبولالعالمي-اختبار.top	No	No	No
info7@قبولالعالمي-اختبار.شبكة	No	No	No
user@رسيل.السعودية	No	No	No
测试1@ua-test.link	No	No	No
测试2@ua-test.technology	No	No	No
测试3@普遍接受-测试.top	No	No	No
دون@رسيل.السعودية	No	No	No

* All the non-processed mail returned: "enter an email address"

fabric/fabric

has_idn_lib: FALSE
 idn_libs: FALSE
 has_regex: FALSE
 regexes: FALSE

Input	Accept	Validate	Process
ua-test.link	Yes	Yes	N/A
ua-test.technology	Yes	Yes	N/A
普遍接受-测试.top	Yes	Yes	N/A
ua-test.世界	Yes	Yes	N/A
普遍接受-测试.世界	Yes	Yes	N/A
普遍接受-测试.世界	Yes	Yes	N/A
ua-test.xn--rhqv96g	Yes	Yes	N/A
xn----f38am99bqvcd5liy1cxsg.top	Yes	Yes	N/A
xn----f38am99bqvcd5liy1cxsg.xn--rhqv96g	Yes	Yes	N/A
قبولالعالمي-اختبار.top	Yes	Yes	N/A
قبولالعالمي-اختبار.شبكة	Yes	Yes	N/A

codelucas/newspaper

has_idn_lib: FALSE
 idn_libs: FALSE
 has_regex: FALSE
 regexes: FALSE

Input	Accept	Validate	Process
ua-test.link	Yes	Yes	Yes
ua-test.technology	Yes	Yes	Yes
普遍接受-测试.top	Yes	Yes	Yes
ua-test.世界	Yes	Yes	Yes



普遍接受-测试.世界	Yes	Yes	Yes
普遍接受-测试。世界	No	No	No
ua-test.xn--rhqv96g	Yes	Yes	Yes
xn----f38am99bqvcd5liy1 cxsg.top	Yes	Yes	Yes
xn----f38am99bqvcd5liy1 cxsg.xn--rhqv96g	Yes	Yes	Yes
القبولالعالمي-اختبار.top	No	No	No
القبولالعالمي-اختبار.شبكة	No	No	No

httpie/httpie

has_idn_lib: FALSE

idn_libs: FALSE

has_regex: FALSE

regexes: FALSE

Input	Accept	Validate	Process
ua-test.link	Yes	Yes	Yes
ua-test.technology	Yes	Yes	Yes
普遍接受-测试.top	No	No	No
ua-test.世界	No	No	No
普遍接受-测试.世界	No	No	No
普遍接受-测试。世界	No	No	No
ua-test.xn--rhqv96g	Yes	Yes	Yes
xn----f38am99bqvcd5liy1 cxsg.top	Yes	Yes	Yes
xn----f38am99bqvcd5liy1 cxsg.xn--rhqv96g	Yes	Yes	Yes
القبولالعالمي-اختبار.top	No	No	No
القبولالعالمي-اختبار.شبكة	No	No	No

odoo/odoo

has_idn_lib: TRUE

idn_libs: idna/2.6

has_regex: FALSE

regexes: FALSE

Input	Accept	Validate	Process
ua-test.link	Yes	Yes	Yes
ua-test.technology	Yes	Yes	Yes
普遍接受-测试.top	Yes	Yes	Yes
ua-test.世界	Yes	Yes	Yes
普遍接受-测试.世界	Yes	Yes	Yes
普遍接受-测试。世界	No	No	No
ua-test.xn--rhqv96g	Yes	Yes	Yes
xn----f38am99bqvcd5liy1 cxsg.top	Yes	Yes	Yes
xn----f38am99bqvcd5liy1 cxsg.xn--rhqv96g	Yes	Yes	Yes
القبولالعالمي-اختبار.top	Yes	Yes	Yes
القبولالعالمي-اختبار.شبكة	Yes	Yes	Yes



gitlabhq/gitlabhq
has_idn_lib: FALSE
idn_libs: FALSE
has_regex: FALSE
regexes: FALSE

Input	Accept	Validate	Process
Info1@ua-test.link	Yes	Yes	Yes
info2@ua-test.technology	Yes	Yes	Yes
info3@普遍接受-测试.top	Yes	Yes	Yes
info4@ua-test.世界	Yes	Yes	Yes
info5@普遍接受-测试.世界	Yes	Yes	Yes
uasg.tech@डेटामेल.भारत	Yes	Yes	Yes
info5@普遍接受-测试.世界	No	No	No
info6@القبولالعالمي-اختبار.top	Yes	Yes	Yes
info7@القبولالعالمي-اختبار.شبكة	Yes	Yes	Yes
user@رسيل.السعودية	Yes	Yes	Yes
测试1@ua-test.link	Yes	Yes	Yes
测试2@ua-test.technology	Yes	Yes	Yes
测试3@普遍接受-测试.top	Yes	Yes	Yes
دون@رسيل.السعودية	Yes	Yes	Yes

* All the non-processed mail returned: "invalid email"

netbox-community/netbox
has_idn_lib: FALSE
idn_libs: FALSE
has_regex: FALSE
regexes: FALSE

Input	Accept	Validate	Process
Info1@ua-test.link	Yes	Yes	N/A
info2@ua-test.technology	Yes	Yes	N/A
info3@普遍接受-测试.top	No	No	N/A
info4@ua-test.世界	No	No	N/A
info5@普遍接受-测试.世界	No	No	N/A
uasg.tech@डेटामेल.भारत	No	No	N/A
info5@普遍接受-测试.世界	No	No	N/A
info6@القبولالعالمي-اختبار.top	No	No	N/A
info7@القبولالعالمي-اختبار.شبكة	No	No	N/A
user@رسيل.السعودية	No	No	N/A
测试1@ua-test.link	No	No	N/A
测试2@ua-test.technology	No	No	N/A
测试3@普遍接受-测试.top	No	No	N/A
دون@رسيل.السعودية	No	No	N/A



getsentry/sentry
has_idn_lib: FALSE
idn_libs: FALSE
has_regex: FALSE
regexes: FALSE

Input	Accept	Validate	Process
Info1@ua-test.link	Yes	Yes	Yes
info2@ua-test.technology	Yes	Yes	Yes
info3@普遍接受-测试.top	Yes	Yes	Yes
info4@ua-test.世界	Yes	Yes	Yes
info5@普遍接受-测试.世界	Yes	Yes	Yes
uasg.tech@डेटामेल.भारत	Yes	Yes	Yes
info5@普遍接受-测试。世界	Yes	Yes	Yes
info6@القبولالعالمي-اختبار.top	Yes	Yes	Yes
info7@القبولالعالمي-اختبار.شبكة	Yes	Yes	Yes
user@رسيل.السعودية	Yes	Yes	Yes
测试1@ua-test.link	No	No	No
测试2@ua-test.technology	No	No	No
测试3@普遍接受-测试.top	No	No	No
دون@رسيل.السعودية	No	No	No

* All the non-processed mail returned: "invalid email"

httpie/http-prompt
has_idn_lib: FALSE
idn_libs: FALSE
has_regex: FALSE
regexes: FALSE

Input	Accept	Validate	Process
ua-test.link	Yes	Yes	Yes
ua-test.technology	Yes	Yes	Yes
普遍接受-测试.top	Yes	Yes	Yes
ua-test.世界	Yes	Yes	Yes
普遍接受-测试.世界	Yes	Yes	Yes
普遍接受-测试。世界	Yes	Yes	Yes
ua-test.xn--rhqv96g	Yes	Yes	Yes
xn----f38am99bqvcd5liy1cxsg.top	Yes	Yes	Yes
xn----f38am99bqvcd5liy1cxsg.xn--rhqv96g	Yes	Yes	Yes
القبولالعالمي-اختبار.top	Yes	Yes	Yes
القبولالعالمي-اختبار.شبكة	Yes	Yes	Yes

encode/httpx
has_idn_lib: TRUE
idn_libs: idna/2.9
has_regex: FALSE
regexes: FALSE



Input	Accept	Validate	Process
ua-test.link	Yes	Yes	Yes
ua-test.technology	Yes	Yes	Yes
普遍接受-测试.top	Yes	Yes	Yes
ua-test.世界	Yes	Yes	Yes
普遍接受-测试.世界	Yes	Yes	Yes
普遍接受-测试。世界	No	No	No
ua-test.xn--rhqv96g	Yes	Yes	Yes
xn----f38am99bqvcd5liy1 cxsg.top	Yes	Yes	Yes
xn----f38am99bqvcd5liy1 cxsg.xn--rhqv96g	Yes	Yes	Yes
القبولالعالمي-اختبار.top	No	No	No
القبولالعالمي-اختبار.شبكة	No	No	No

urllib3/urllib3

has_idn_lib: FALSE

idn_libs: FALSE

has_regex: FALSE

regexes: FALSE

Input	Accept	Validate	Process
ua-test.link	Yes	Yes	Yes
ua-test.technology	Yes	Yes	Yes
普遍接受-测试.top	Yes	Yes	Yes
ua-test.世界	Yes	Yes	Yes
普遍接受-测试.世界	Yes	Yes	Yes
普遍接受-测试。世界	No	No	No
ua-test.xn--rhqv96g	Yes	Yes	Yes
xn----f38am99bqvcd5liy1 cxsg.top	Yes	Yes	Yes
xn----f38am99bqvcd5liy1 cxsg.xn--rhqv96g	Yes	Yes	Yes
القبولالعالمي-اختبار.top	No	No	No
القبولالعالمي-اختبار.شبكة	No	No	No

ross/requests-futures

has_idn_lib: FALSE

idn_libs: FALSE

has_regex: FALSE

regexes: FALSE

Input	Accept	Validate	Process
ua-test.link	Yes	Yes	Yes
ua-test.technology	Yes	Yes	Yes
普遍接受-测试.top	Yes	Yes	Yes
ua-test.世界	Yes	Yes	Yes
普遍接受-测试.世界	Yes	Yes	Yes
普遍接受-测试。世界	No	No	No



ua-test.xn--rhqv96g	Yes	Yes	Yes
xn----f38am99bqvcd5liy1 cxsg.top	Yes	Yes	Yes
xn----f38am99bqvcd5liy1 cxsg.xn--rhqv96g	Yes	Yes	Yes
القبولالعالمي-اختبار.top	No	No	No
القبولالعالمي-اختبار.شبكة	No	No	No

wummel/linkchecker

has_idn_lib: FALSE

idn_libs: FALSE

has_regex: FALSE

regexes: FALSE

Input	Accept	Validate	Process
ua-test.link	Yes	Yes	Yes
ua-test.technology	Yes	Yes	Yes
普遍接受-测试.top	Yes	Yes	Yes
ua-test.世界	Yes	Yes	Yes
普遍接受-测试.世界	Yes	Yes	Yes
普遍接受-测试。世界	Yes	No	No
ua-test.xn--rhqv96g	Yes	Yes	Yes
xn----f38am99bqvcd5liy1 cxsg.top	Yes	Yes	Yes
xn----f38am99bqvcd5liy1 cxsg.xn--rhqv96g	Yes	Yes	Yes
القبولالعالمي-اختبار.top	No	No	No
القبولالعالمي-اختبار.شبكة	No	No	No



Appendix 3 – Top 500 Java Projects Sorted by Relevance

repository.full_name	has_regex	has_idn_lib	lib found
macrozheng/mall	FALSE	FALSE	
apache/dubbo	FALSE	FALSE	
netty/netty	FALSE	FALSE	
ityouknow/spring-boot-examples	FALSE	FALSE	
crossoverjie/JCSprout	FALSE	FALSE	
alibaba/druid	FALSE	FALSE	
alibaba/fastjson	FALSE	FALSE	
xkcoding/spring-boot-demo	FALSE	FALSE	
libgdx/libgdx	FALSE	FALSE	
mybatis/mybatis-3	FALSE	FALSE	
shuzheng/zheng	FALSE	FALSE	
xuxueli/xxl-job	FALSE	FALSE	
google/gson	FALSE	FALSE	
alibaba/easyexcel	FALSE	FALSE	
looly/hutool	FALSE	FALSE	
qiurunze123/miaosha	FALSE	FALSE	
linlinjava/litemall	FALSE	FALSE	
tipsy/profile-summary-for-github	FALSE	FALSE	
apache/rocketmq	FALSE	FALSE	
google/flatbuffers	FALSE	FALSE	
wakaleo/game-of-life	FALSE	FALSE	
jfeinstein10/SlidingMenu	FALSE	FALSE	
openzipkin/zipkin	FALSE	FALSE	
elunez/eladmin	FALSE	FALSE	
spring-projects/spring-petclinic	FALSE	FALSE	
chrisbanes/Android-PullToRefresh	FALSE	FALSE	
EnterpriseQualityCoding/FizzBuzzEnterpriseEdition	FALSE	FALSE	
naver/pinpoint	FALSE	FALSE	
thx/RAP	TRUE	FALSE	
eclipse-vertx/vert.x	FALSE	FALSE	
google/libphonenumber	FALSE	FALSE	
liaohuqiu/android-Ultra-Pull-To-Refresh	FALSE	FALSE	
ceph/ceph	FALSE	FALSE	
seaswalker/spring-analysis	FALSE	TRUE	hibernate-validator/6.1.0.Final,
paascloud/paascloud-master	FALSE	FALSE	
lihengming/spring-boot-api-project-seed	FALSE	FALSE	
junit-team/junit4	FALSE	FALSE	
dropwizard/dropwizard	FALSE	FALSE	



antlr/antlr4	FALSE	FALSE	
chanjarster/weixin-java-tools	FALSE	FALSE	
square/dagger	FALSE	FALSE	
YunaiV/SpringBoot-Labs	FALSE	FALSE	
hs-web/hsweb-framework	FALSE	FALSE	
stanfordnlp/CoreNLP	FALSE	FALSE	
jhy/jsoup	FALSE	FALSE	
clojure/clojure	FALSE	FALSE	
neo4j/neo4j	FALSE	FALSE	
square/javapoet	FALSE	FALSE	
TooTallNate/Java-WebSocket	FALSE	FALSE	
zhisheng17/flink-learning	TRUE	FALSE	
dropwizard/metrics	FALSE	FALSE	
crossoverJie/cim	FALSE	FALSE	
kevin-wayne/algs4	FALSE	FALSE	
NLPchina/ansj_seg	FALSE	FALSE	
liyifeng1994/ssm	FALSE	FALSE	
Trinea/android-common	FALSE	FALSE	
zouzg/mybatis-generator-gui	FALSE	FALSE	
knightliao/disconf	FALSE	FALSE	
Angel-ML/angel	FALSE	FALSE	
jwt/jjwt	FALSE	FALSE	
antlr/grammars-v4	FALSE	FALSE	
nhaarman/ListViewAnimations	FALSE	FALSE	
abel533/Mapper	FALSE	FALSE	
apache/camel	FALSE	FALSE	
OpenFeign/feign	FALSE	FALSE	
apache/pulsar	FALSE	FALSE	
omcljs/om	FALSE	FALSE	
Alluxio/alluxio	FALSE	FALSE	
NanoHttpd/nanohttpd	FALSE	FALSE	
runelite/runelite	FALSE	FALSE	
quarkusio/quarkus	FALSE	FALSE	
scribejava/scribejava	FALSE	FALSE	
wildfirechat/server	FALSE	FALSE	
JakeWharton/DiskLruCache	FALSE	FALSE	
google/closure-compiler	FALSE	FALSE	
springframeworkguru/spring5webapp	FALSE	FALSE	
spring-cloud/spring-cloud-netflix	FALSE	FALSE	
otale/tale	FALSE	FALSE	
wxiaoqi/Spring-Cloud-Platform	FALSE	FALSE	
newbee-ltd/newbee-mall	FALSE	FALSE	
thinkaurelius/titan	FALSE	FALSE	



mcxiaoke/android-volley	FALSE	FALSE	
google/error-prone	FALSE	FALSE	
roncoo/roncoo-pay	FALSE	FALSE	
pardom-zz/ActiveAndroid	FALSE	FALSE	
EsotericSoftware/kryo	FALSE	FALSE	
ffay/lanproxy	FALSE	FALSE	
JodaOrg/joda-time	FALSE	FALSE	
socketio/socket.io-client-java	FALSE	FALSE	
kiegroup/drools	FALSE	FALSE	
Hygieia/Hygieia	FALSE	TRUE	validation-api/2.0.1.Final, hibernate-validator, hibernate- validator/6.0.7.Final, validation-api/1.1.0.Final,
hazelcast/hazelcast	FALSE	FALSE	
sofastack/sofa-boot	FALSE	FALSE	
Meituan-Dianping/Leaf	FALSE	FALSE	
codingapi/tx-lcn	FALSE	FALSE	
jOOQ/jOOQ	FALSE	FALSE	
mesos/chronos	FALSE	FALSE	
bauerca/drag-sort-listview	FALSE	FALSE	
oldmanpushcart/greys-anatomy	FALSE	FALSE	
crossoverJie/SSM	FALSE	FALSE	
yahoo/TensorFlowOnSpark	FALSE	FALSE	
stylefeng/Guns	FALSE	FALSE	
eclipse/jetty.project	FALSE	FALSE	
jfinal/jfinal	FALSE	FALSE	
tipsy/javalin	FALSE	FALSE	
code4craft/tiny-spring	FALSE	FALSE	
intuit/karate	FALSE	FALSE	
mpusher/mpush	FALSE	FALSE	
tuguangquan/mybatis	FALSE	FALSE	
frohoff/ysoserial	FALSE	FALSE	
JanusGraph/janusgraph	FALSE	FALSE	
chillzhuang/SpringBlade	FALSE	FALSE	
intel-analytics/BigDL	FALSE	FALSE	
google/google-java-format	FALSE	FALSE	
mybatis/spring	FALSE	FALSE	
eirslett/frontend-maven-plugin	FALSE	FALSE	
javaee-samples/javaee7-samples	FALSE	FALSE	
traccar/traccar	FALSE	FALSE	
cucumber/cucumber-jvm	FALSE	FALSE	
raphw/byte-buddy	FALSE	FALSE	
Nepxion/Discovery	FALSE	FALSE	
szerhusenBC/jwt-spring-security-demo	FALSE	FALSE	



kevinsawicki/http-request	FALSE	FALSE	
apache/maven	FALSE	TRUE	icu4j/67.1, commons-validator/1.6,
hope-for/hope-boot	FALSE	FALSE	
johnkarl81/parceler	FALSE	FALSE	
apache/nifi	FALSE	FALSE	
guoguibing/librec	FALSE	FALSE	
ronmamo/reflections	FALSE	FALSE	
Red5/red5-server	FALSE	FALSE	
alibaba/transmittable-thread-local	FALSE	FALSE	
zhangkaitao/es	FALSE	FALSE	
prontera/spring-cloud-rest-tcc	FALSE	FALSE	
plantuml/plantuml	FALSE	FALSE	
vespa-engine/vespa	FALSE	FALSE	
FasterXML/jackson-databind	FALSE	FALSE	
lhazlewood/apache-shiro-tutorial-webapp	FALSE	FALSE	
Twitter4J/Twitter4J	FALSE	FALSE	
macrozheng/springcloud-learning	FALSE	FALSE	
mapstruct/mapstruct	FALSE	FALSE	
coobird/thumbnailator	FALSE	FALSE	
spring-io/initializr	FALSE	FALSE	
TuiQiao/CBoard	FALSE	FALSE	
JoanZapata/android-pdfview	FALSE	FALSE	
querydsl/querydsl	FALSE	FALSE	
jhalterman/failsafe	FALSE	FALSE	
liquibase/liquibase	FALSE	FALSE	
igniterealtime/Openfire	FALSE	TRUE	hibernate-validator/5.0.1.Final, validation-api/1.1.0.Final,
pedrovg/Algorithms	FALSE	FALSE	
LWJGL/lwjgl3	FALSE	FALSE	
jboss-javassist/javassist	FALSE	FALSE	
JSQlParser/JSqIParser	FALSE	FALSE	
Javen205/IJPay	FALSE	FALSE	
nutzam/nutz	FALSE	FALSE	
codingXiaxw/seckill	FALSE	FALSE	
liyiorg/weixin-popular	FALSE	FALSE	
apache/commons-lang	FALSE	FALSE	
ata4/disunity	FALSE	FALSE	
google/binnavi	FALSE	FALSE	
xuhuisheng/lemon	FALSE	TRUE	hibernate-validator,
normanmaurer/netty-in-action	FALSE	FALSE	
Pay-Group/best-pay-sdk	FALSE	FALSE	
Bukkit/Bukkit	FALSE	FALSE	
FudanNLP/fnlp	FALSE	FALSE	



zhangdaiscott/jeecg	FALSE	TRUE	hibernate-validator/\${hibernate-validator.version},
jeremylong/DependencyCheck	TRUE	FALSE	
alibaba/QLExpress	FALSE	FALSE	
apache/activemq	FALSE	FALSE	
alibaba/Alink	FALSE	FALSE	
spotify/docker-maven-plugin	FALSE	FALSE	
spring-cloud/spring-cloud-kubernetes	FALSE	FALSE	
QNJR-GROUP/EasyTransaction	FALSE	FALSE	
javamelody/javamelody	FALSE	FALSE	
alohaeditor/Aloha-Editor	FALSE	FALSE	
bastillion-io/Bastillion	FALSE	FALSE	
Prototik/HoloEverywhere	FALSE	FALSE	
h2oai/h2o-2	FALSE	FALSE	
zendesk/maxwell	FALSE	FALSE	
xtuhcy/gecco	FALSE	FALSE	
JCTools/JCTools	FALSE	FALSE	
qos-ch/logback	FALSE	FALSE	
renrenio/renren-security	TRUE	FALSE	
alibaba/dubbo-spring-boot-starter	FALSE	FALSE	
signalapp/Signal-Server	FALSE	FALSE	
sannies/mp4parser	FALSE	FALSE	
zlt2000/microservices-platform	FALSE	FALSE	
spring-projects/spring-data-jpa	FALSE	FALSE	
zalando/zalenium	FALSE	FALSE	
DeemOpen/zkui	FALSE	FALSE	
killbill/killbill	FALSE	FALSE	
addthis/stream-lib	FALSE	FALSE	
metersphere/metersphere	FALSE	FALSE	
bz51/SpringBoot-Dubbo-Docker-Jenkins	FALSE	FALSE	
springframeworkguru/spring5-recipe-app	FALSE	FALSE	
rubenlagus/TelegramBots	FALSE	FALSE	
androidquery/androidquery	FALSE	FALSE	
jenkinsci/kubernetes-plugin	FALSE	FALSE	
boylegu/SpringBoot-vue	FALSE	FALSE	
jmdhappy/xpay-master	FALSE	FALSE	
SpringCloud/spring-cloud-code	FALSE	FALSE	
twitter/distributedlog	FALSE	FALSE	
tdebatty/java-string-similarity	FALSE	FALSE	
Netflix/curator	FALSE	FALSE	
Kong/unirest-java	FALSE	FALSE	



DiUS/java-faker	FALSE	TRUE	commons-validator/1.6,
luxiaoxun/NettyRpc	FALSE	FALSE	
biezhi/wechat-api	FALSE	FALSE	
eclipse/paho.mqtt.android	FALSE	FALSE	
kanwangzjm/furniture	FALSE	TRUE	validation-api/1.1.0.Final, hibernate-validator/5.2.4.Final,
JakeWharton/RxRelay	FALSE	FALSE	
Baeldung/spring-security-oauth	FALSE	FALSE	
RichardWarburton/java-8-lambdas-exercises	FALSE	FALSE	
BroadleafCommerce/BroadleafCommerce	FALSE	FALSE	
killme2008/aviatorscript	FALSE	FALSE	
FasterXML/jackson-core	FALSE	FALSE	
OpenHFT/Chronicle-Queue	FALSE	FALSE	
plutext/docx4j	FALSE	FALSE	
googleapis/google-cloud-java	FALSE	FALSE	
adamfisk/LittleProxy	TRUE	FALSE	
RipMeApp/ripme	FALSE	FALSE	
sofastack/sofa-bolt	FALSE	FALSE	
ninjaframework/ninja	FALSE	FALSE	
huaban/jieba-analysis	FALSE	FALSE	
twitter-archive/gizzard	FALSE	FALSE	
sryza/aas	FALSE	FALSE	
maurycyw/StaggeredGridView	FALSE	FALSE	
prometheus/jmx_exporter	FALSE	FALSE	
OpenHFT/Chronicle-Map	FALSE	FALSE	
ICT-BDA/EasyML	FALSE	FALSE	
Trinea/android-auto-scroll-view-pager	FALSE	FALSE	
vaadin/framework	FALSE	TRUE	hibernate-validator,
SpringForAll/spring-boot-starter-swagger	FALSE	TRUE	springfox-bean-validators/\${version.swagger},
zeromq/zeromq	FALSE	FALSE	
LinShunKang/MyPerf4J	FALSE	FALSE	
qq53182347/liugh-parent	FALSE	FALSE	
kiegroup/optaplanner	FALSE	FALSE	
spotify/helios	FALSE	FALSE	
zhaojun1998/zfile	FALSE	FALSE	
opentripplanner/OpenTripPlanner	FALSE	FALSE	
jenkinsci/configuration-as-code-plugin	FALSE	FALSE	
zhgexiaohuozhi/SeimiCrawler	FALSE	FALSE	
yaphone/itchat4j	FALSE	FALSE	
DTStack/flinkx	FALSE	FALSE	
atomix/atomix	FALSE	FALSE	



wosyingjun/beauty_ssm	FALSE	TRUE	hibernate-validator/4.2.0.Final,
iBase4J/iBase4J	FALSE	FALSE	
salesforce/TransmogriAI	FALSE	TRUE	commons-validator/1.6,
joel-costigliola/assertj-core	FALSE	FALSE	
spring-projects/greenhouse	FALSE	TRUE	validation-api/1.0.0.GA, hibernate-validator/4.2.0.Final,
atomashpolskiy/bt	FALSE	FALSE	
vector4wang/spring-boot-quick	FALSE	FALSE	
yyc/word	FALSE	FALSE	
taylor-training/time-tracker	FALSE	FALSE	
confluentinc/kafka-rest	FALSE	FALSE	
soot-oss/soot	FALSE	FALSE	
yacy/yacy_search_server	FALSE	TRUE	icu4j/63.1,
KFCFans/PowerJob	FALSE	FALSE	
jmxtrans/jmxtrans	FALSE	FALSE	
tinkerpop/gremlin	FALSE	FALSE	
confluentinc/kafka-streams-examples	FALSE	FALSE	
shyiko/mysql-binlog-connector-java	FALSE	FALSE	
spring-projects/spring-data-mongodb	FALSE	FALSE	
VerbalExpressions/JavaVerbalExpressions	FALSE	FALSE	
scouter-project/scouter	FALSE	FALSE	
a2888409/face2face	FALSE	FALSE	
Sayi/poi-tl	FALSE	FALSE	
spring-projects/spring-data-redis	FALSE	FALSE	
baomidou/dynamic-datasource-spring-boot-starter	FALSE	FALSE	
Qihoo360/XLearning	FALSE	FALSE	
robovm/robovm	TRUE	FALSE	
drewnoakes/metadata-extractor	FALSE	FALSE	
Athou/commafeed	FALSE	TRUE	icu4j/55.1,
sanshengshui/netty-learning-example	FALSE	FALSE	
flyingsaucerproject/flyingsaucer	FALSE	FALSE	
kubernetes-client/java	FALSE	FALSE	
smartloli/kafka-eagle	FALSE	FALSE	
logstash/logstash-logback-encoder	FALSE	FALSE	
ZHENFENG13/My-Blog	FALSE	FALSE	
xuxueli/xxl-ss	FALSE	FALSE	
xmindltd/xmind	FALSE	FALSE	
itmuch/spring-cloud-docker-microservice-book-code	FALSE	FALSE	
apilayer/restcountries	FALSE	FALSE	
classgraph/classgraph	FALSE	FALSE	



AnyListen/tools-ocr	FALSE	FALSE	
eclipse/paho.mqtt.java	FALSE	FALSE	
HotswapProjects/HotswapAgent	FALSE	FALSE	
datastax/java-driver	FALSE	FALSE	
essentials/Essentials	FALSE	FALSE	
lightbody/browsermob-proxy	FALSE	FALSE	
zaiyunduan123/springboot-seckill	FALSE	FALSE	
wkeyuan/DWSurvey	FALSE	TRUE	hibernate-validator/4.2.0.Final,
j256/ormlite-android	FALSE	FALSE	
MorphiaOrg/morphia	FALSE	FALSE	
jamesagnew/hapi-fhir	FALSE	FALSE	
kilim/kilim	FALSE	FALSE	
kairosdb/kairosdb	FALSE	TRUE	validation-api/1.0.0.GA,
GravityLabs/goose	FALSE	FALSE	
binarywang/weixin-java-mp-demo	FALSE	FALSE	
lealone/Lealone	FALSE	FALSE	
Arronlong/httpclientutil	FALSE	FALSE	
prometheus/client_java	FALSE	FALSE	
modelmapper/modelmapper	FALSE	FALSE	
seaswalker/JDK	FALSE	FALSE	
LibrePDF/OpenPDF	FALSE	FALSE	
seata/seata-samples	FALSE	FALSE	
torodb/stampede	FALSE	FALSE	
fabric8io/docker-maven-plugin	FALSE	FALSE	
TakahikoKawasaki/nv-websocket-client	FALSE	FALSE	
OSBI/saiku	TRUE	TRUE	validation-api/1.0.0.GA,
apache/cxf	FALSE	FALSE	
4thline/cling	FALSE	FALSE	
liaohuqiu/android-GridViewWithHeaderAndFooter	FALSE	FALSE	
spullara/mustache.java	FALSE	FALSE	
SERG-Delft/mooc-software-testing	FALSE	FALSE	
spotify/apollo	FALSE	FALSE	
IanDarwin/Android-Cookbook-Examples	FALSE	FALSE	
apache/pdfbox	FALSE	FALSE	
chenssy89/jutils	FALSE	FALSE	
eclipse/eclipse-collections	FALSE	FALSE	
zhisheng17/blog	FALSE	FALSE	
cognitect/transit-format	FALSE	FALSE	
nathanmarz/storm-starter	FALSE	FALSE	
Dreampie/Resty	FALSE	FALSE	
jenkinsci/gitlab-plugin	FALSE	FALSE	
DmitryKey/luke	FALSE	FALSE	



NLPchina/nlp-lang	FALSE	FALSE	
apache/struts	FALSE	FALSE	
protostuff/protostuff	FALSE	FALSE	
Intel-bigdata/HiBench	FALSE	FALSE	
liaohuqiu/cube-sdk	FALSE	FALSE	
jdbi/jdbi	FALSE	FALSE	
apache/carbondata	FALSE	FALSE	
bonigarcia/webdrivermanager	FALSE	FALSE	
magefree/mage	FALSE	FALSE	
mabe02/lanterna	FALSE	FALSE	
ysc/APDPlat	FALSE	FALSE	
opentracing/opentracing-java	FALSE	FALSE	
spring-projects/spring-retry	FALSE	FALSE	
tomoya92/pybbs	FALSE	FALSE	
winder/Universal-G-Code-Sender	FALSE	FALSE	
ChinaSilence/any-video	FALSE	FALSE	
Pi4J/pi4j	FALSE	FALSE	
xujeff/tianti	FALSE	TRUE	validation-api/1.1.0.Final,
guardianproject/ChatSecureAndroid	FALSE	FALSE	
prestosql/presto	FALSE	FALSE	
Antabot/White-Jotter	FALSE	FALSE	
ivan-vasilev/neuralnetworks	FALSE	FALSE	
mttkay/ignition	FALSE	FALSE	
cognitect-labs/transducers-js	FALSE	FALSE	
tinkerpop/blueprints	FALSE	FALSE	
codedrinker/community	FALSE	FALSE	
bootique/bootique	FALSE	FALSE	
ninjudd/drip	FALSE	FALSE	
ming-soft/MCMS	TRUE	FALSE	
pentaho/mondrian	FALSE	FALSE	
tang-jie/NettyRPC	FALSE	FALSE	
ainilili/ratel	FALSE	FALSE	
abel533/Mybatis-Spring	FALSE	FALSE	
asciidocfx/AsciidocFX	FALSE	FALSE	
dain/leveldb	FALSE	FALSE	
jchambers/pushy	FALSE	FALSE	
sryza/spark-timeseries	FALSE	FALSE	
tobato/FastDFS_Client	FALSE	TRUE	hibernate-validator/\${hibernate-validator.version},
galenframework/galen	FALSE	FALSE	
lexburner/oauth2-demo	FALSE	FALSE	
confluentinc/cp-docker-images	FALSE	FALSE	
bwssystems/ha-bridge	FALSE	FALSE	



schemasp/schemasp	FALSE	FALSE	
alibaba/jvm-sandbox-repeater	FALSE	FALSE	
ctripcorp/x-pipe	FALSE	FALSE	
twitter-archive/iago	FALSE	FALSE	
llohelle/zookeeper	FALSE	FALSE	
jacksu/utis4s	FALSE	FALSE	
JonathanLink/PDFLayoutTextStripper	FALSE	FALSE	
greenrobot/essentials	FALSE	FALSE	
amaembo/streamex	FALSE	FALSE	
alexa/alexa-skills-kit-sdk-for-java	FALSE	FALSE	
siddhi-io/siddhi	FALSE	FALSE	
sqmax/springboot-project	FALSE	FALSE	
rampatra/jbot	FALSE	FALSE	
DSpace/DSpace	FALSE	FALSE	
jenkinsci/git-plugin	FALSE	TRUE	commons-validator/1.6,
zeroturnaround/zt-zip	FALSE	FALSE	
dearbinge/dubbo-spring-boot-mybatis-redis	FALSE	FALSE	
yingwang0/pysonar2	FALSE	FALSE	
UniversalMediaServer/UniversalMediaServer	FALSE	TRUE	icu4j/67.1,
Codecademy/EventHub	FALSE	FALSE	
simpligility/android-maven-plugin	FALSE	FALSE	
lukas-kreca/ShedLock	FALSE	FALSE	
leechenxiang/imoooc-springboot-starter	FALSE	FALSE	
mbechler/marshalsec	FALSE	FALSE	
toolbox4minecraft/amidst	FALSE	FALSE	
apache/shardingsphere-example	FALSE	FALSE	
iSafeBlue/TrackRay	FALSE	FALSE	
gsh199449/spider	FALSE	FALSE	
tdunning/t-digest	FALSE	FALSE	
reactor/lite-rx-api-hands-on	FALSE	FALSE	
wuyinxian124/nettybook2	FALSE	FALSE	
devnied/EMV-NFC-Paycard-Enrollment	FALSE	FALSE	
JaceyRx/Examination_System	FALSE	TRUE	hibernate-validator/5.4.1.Final,
wyh-spring-ecosystem-student/spring-boot-student	FALSE	FALSE	
casbin/jcasbin	FALSE	FALSE	
peter-lawrey/Java-Chronicle	FALSE	FALSE	
opensourceBIM/BIMserver	FALSE	FALSE	
ajanata/PretendYoureXyzzy	FALSE	FALSE	
LeonardoZ/java-concurrency-patterns	FALSE	FALSE	



ocpsoft/prettytime	FALSE	FALSE	
influxdata/influxdb-java	FALSE	FALSE	
zc-zh-001/ShadowSocks-Share	FALSE	FALSE	
borball/weixin-sdk	FALSE	FALSE	
sakaiproject/sakai	TRUE	FALSE	
datumbox/datumbox-framework	FALSE	FALSE	
infinispan/infinispan	FALSE	FALSE	
marcosbarbero/spring-cloud-zuul-ratelimit	FALSE	FALSE	
knowm/XChart	FALSE	FALSE	
guari/eclipse-ui-theme	FALSE	FALSE	
gshiple/openshift3mlbparks	FALSE	FALSE	
alexxyang/shiro-redis	FALSE	FALSE	
richardwilly98/elasticsearch-river-mongodb	FALSE	FALSE	
aptana/studio3	FALSE	FALSE	
hcoles/pitest	FALSE	FALSE	
glyptodon/guacamole-client	FALSE	FALSE	
liaochong/myexcel	FALSE	FALSE	
Opslab/opslabJutil	FALSE	FALSE	
pagehelper/pagehelper-spring-boot	FALSE	FALSE	
subhra74/snowflake	FALSE	FALSE	
FuZhucheng/SSM	FALSE	FALSE	
Pivotal-Field-Engineering/pcf-ers-demo	FALSE	FALSE	
EsotericSoftware/reflectasm	FALSE	FALSE	
haraldk/TwelveMonkeys	FALSE	FALSE	
bluejoe2008/openwebflow	FALSE	FALSE	
openhav/openhav-distro	FALSE	FALSE	
mbarrben/android-stickyheaderswipelisting	FALSE	FALSE	
derekoneil/twitter-feed-oke	FALSE	FALSE	
jzyong/game-server	FALSE	FALSE	
selendroid/selendroid	FALSE	FALSE	
babylikebird/Micro-Service-Skeleton	FALSE	FALSE	
square/seismic	FALSE	FALSE	
rkalla/imgscalr	FALSE	FALSE	
banq/jdonframework	FALSE	FALSE	
KevinXie0131/SpringMVC-Spring-MyBatis	FALSE	FALSE	
Teradata/kylo	FALSE	FALSE	
klout/brickhouse	FALSE	FALSE	
yahoo/egads	FALSE	FALSE	
zccodere/study-imooc	FALSE	FALSE	
jfaster/mango	FALSE	FALSE	



nhaarman/supertooltips	FALSE	FALSE	
kohlschutter/boilerpipe	FALSE	FALSE	
patric-r/jvmtop	FALSE	FALSE	
spring-io/start.spring.io	FALSE	FALSE	
jvm-profiling-tools/honest-profiler	FALSE	FALSE	
robotlegs/robotlegs-framework	FALSE	FALSE	
wunderlist/android-sliding-layer-lib	FALSE	FALSE	
judasn/Basic-Single-Module-SSM	FALSE	FALSE	
lerry903/RuoYi	FALSE	FALSE	
OfficeDev/ews-java-api	FALSE	FALSE	
864381832/xJavaFxTool	FALSE	FALSE	
gravitee-io/gravitee-gateway	FALSE	FALSE	
in28minutes/SpringMvcStepByStep	FALSE	TRUE	hibernate-validator/5.0.2.Final,
belaban/JGroups	FALSE	FALSE	
			hibernate-validator/\${hibernate-validator.version}, commons-validator/\${commons-validator.version},
Martin404/PayMap	FALSE	TRUE	
twitter/hbc	FALSE	FALSE	
monkeyWie/proxyee	FALSE	FALSE	
aaberg/sql2o	FALSE	FALSE	
floodlight/floodlight	FALSE	FALSE	
gavenwangcn/vole	FALSE	FALSE	
EssentialsX/Essentials	FALSE	FALSE	
heroku/java-getting-started	FALSE	FALSE	
bazaarvoice/jolt	FALSE	FALSE	
zstackio/zstack	FALSE	FALSE	
RestExpress/RestExpress	FALSE	FALSE	
mcMMO-Dev/mcMMO	FALSE	FALSE	
liu-peiyu/geek-framework	FALSE	FALSE	
HaraldWalker/user-agent-utils	FALSE	FALSE	
springframeworkguru/sfg-pet-clinic	FALSE	FALSE	
signalapp/BitHub	FALSE	FALSE	
vert-x3/vertx-web	FALSE	FALSE	
pires/android-obd-reader	FALSE	FALSE	
komoot/photon	FALSE	FALSE	
INRIA/spoon	FALSE	TRUE	validation-api/2.0.1.Final,
apache/commons-io	FALSE	FALSE	
jcodec/jcodec	FALSE	FALSE	
mttkay/droid-fu	FALSE	FALSE	
hub4j/github-api	FALSE	FALSE	
zhkl0228/unidbg	FALSE	FALSE	
zhyocean/MyBlog	FALSE	FALSE	
DragonetMC/DragonProxy	FALSE	FALSE	



apereo/java-cas-client	FALSE	FALSE	
hsiafan/apk-parser	FALSE	FALSE	
apache/systemml	FALSE	FALSE	
apache/mina	FALSE	FALSE	
belerweb/pinyin4j	FALSE	FALSE	
spring-cloud/spring-cloud-consul	FALSE	FALSE	
nguyenq/tess4j	FALSE	FALSE	
awslabs/deequ	FALSE	FALSE	
redwarp/9-Patch-Resizer	FALSE	FALSE	
sd4324530/fastweixin	FALSE	FALSE	
Impetus/Kundera	FALSE	FALSE	
intuit/wasabi	FALSE	FALSE	
ysc/cws_evaluation	FALSE	FALSE	
fossasia/mvisc	FALSE	FALSE	



Appendix 4 – Top 500 Python Projects Sorted by Relevance

repository.full_name	has_regex	has_idn_lib	lib found
TheAlgorithms/Python	FALSE	FALSE	
vinta/awesome-python	FALSE	FALSE	
ansible/ansible	FALSE	FALSE	
keras-team/keras	FALSE	FALSE	
pytorch/pytorch	FALSE	FALSE	
home-assistant/core	FALSE	FALSE	
ageitgey/face_recognition	FALSE	FALSE	
deepfakes/faceswap	FALSE	FALSE	
odoo/odoo	FALSE	TRUE	idna/2.6,
psf/requests	FALSE	TRUE	idna/2.9,
nvbn/thefuck	FALSE	FALSE	
apachecn/AiLearning	FALSE	FALSE	
testerSunshine/12306	FALSE	FALSE	
httpie/httpie	FALSE	FALSE	
google-research/bert	FALSE	FALSE	
matterport/Mask_RCNN	FALSE	FALSE	
floodsung/Deep-Learning-Papers-Reading-Roadmap	FALSE	FALSE	
facebookresearch/Detectron	FALSE	FALSE	
3b1b/manim	FALSE	FALSE	
gitlabhq/gitlabhq	FALSE	FALSE	
iperov/DeepFaceLab	FALSE	FALSE	
jondot/awesome-react-native	FALSE	FALSE	
getsentry/sentry	FALSE	FALSE	
CorentinJ/Real-Time-Voice-Cloning	FALSE	FALSE	
numpy/numpy	FALSE	FALSE	
docker/compose	FALSE	TRUE	idna/2.10,
donnemartin/interactive-coding-challenges	FALSE	FALSE	
mnielsen/neural-networks-and-deep-learning	FALSE	FALSE	
keon/algorithms	FALSE	FALSE	
eriklindernoren/ML-From-Scratch	FALSE	FALSE	
wangshub/wechat_jump_game	FALSE	FALSE	
explosion/spaCy	FALSE	FALSE	
junyanz/pytorch-CycleGAN-and-pix2pix	FALSE	FALSE	
commaai/openpilot	FALSE	TRUE	idna/2.9,
getredash/redash	FALSE	FALSE	
davidsandberg/facenet	FALSE	FALSE	
binux/pyspider	FALSE	FALSE	
trekhleb/homemade-machine-learning	FALSE	FALSE	
instillai/TensorFlow-Course	FALSE	FALSE	



openai/gpt-2	FALSE	FALSE	
chubin/cheat.sh	FALSE	TRUE	PyICU,
mozilla/DeepSpeech	FALSE	FALSE	
huanghyw/jd_seckill	FALSE	TRUE	idna/2.9,
RaRe-Technologies/genism	FALSE	FALSE	
trailofbits/algo	FALSE	FALSE	
waditu/tushare	FALSE	FALSE	
pypa/pipenv	FALSE	TRUE	idna/2.9,
gunthercox/ChatterBot	FALSE	FALSE	
ShangtongZhang/reinforcement-learning-an-introduction	FALSE	FALSE	
sherlock-project/sherlock	FALSE	FALSE	
timgrossmann/InstaPy	FALSE	TRUE	idna,
python-telegram-bot/python-telegram-bot	FALSE	FALSE	
jhao104/proxy_pool	FALSE	FALSE	
pjialin/py12306	FALSE	TRUE	idna/2.8,
StevenBlack/hosts	FALSE	FALSE	
mirumee/saleor	FALSE	TRUE	idna/2.10,
nicolargo/glances	FALSE	FALSE	
scipy/scipy	FALSE	FALSE	
tensorflow/tensor2tensor	FALSE	FALSE	
youfou/wxpy	FALSE	FALSE	
aws/aws-cli	FALSE	FALSE	
chenyuntc/pytorch-book	FALSE	FALSE	
fabric/fabric	FALSE	FALSE	
ddbourgin/numpy-ml	FALSE	FALSE	
frappe/erpnext	FALSE	FALSE	
pyecharts/pyecharts	FALSE	FALSE	
psf/black	FALSE	TRUE	idna/2.9,
espressif/esp-idf	FALSE	FALSE	
nltk/nltk	FALSE	FALSE	
cookiecutter/cookiecutter	FALSE	FALSE	
Rochester-NRT/RocAlphaGo	FALSE	FALSE	
eriklindernoren/Keras-GAN	FALSE	FALSE	
jantic/DeOldify	FALSE	FALSE	
rougier/numpy-100	FALSE	FALSE	
joelgrus/data-science-from-scratch	FALSE	FALSE	
aleju/imgaug	FALSE	FALSE	
hindupuravinash/the-gan-zoo	FALSE	TRUE	idna/2.7,
eriklindernoren/PyTorch-GAN	FALSE	FALSE	
codelucas/newspaper	FALSE	FALSE	
facebookresearch/maskrcnn-benchmark	FALSE	FALSE	
zalandoresearch/fashion-mnist	FALSE	FALSE	
microsoft/cascadia-code	FALSE	FALSE	



threat9/routersploit	FALSE	FALSE	
h2y/Shadowrocket-ADBlock-Rules	FALSE	FALSE	
Miserlou/Zappa	FALSE	TRUE	idna/2.9,
chubin/wttr.in	FALSE	FALSE	
coursera-dl/coursera-dl	FALSE	FALSE	
tonybeltramelli/pix2code	FALSE	FALSE	
alexjc/neural-enhance	FALSE	FALSE	
python/mypy	FALSE	FALSE	
amueller/word_cloud	FALSE	FALSE	
boto/boto	FALSE	TRUE	idna/2.7,
MobSF/Mobile-Security-Framework-MobSF	FALSE	FALSE	
sfyc23/EverydayWechat	FALSE	FALSE	
pydanny/cookiecutter-django	FALSE	FALSE	
flairNLP/flair	FALSE	FALSE	
mlflow/mlflow	FALSE	FALSE	
deppomf/DeepCreamPy	FALSE	FALSE	
WillKoehrsen/Data-Analysis	FALSE	FALSE	
alievk/avatarify	FALSE	FALSE	
jupyter/docker-stacks	FALSE	FALSE	
statsmodels/statsmodels	FALSE	FALSE	
python-pillow/Pillow	FALSE	FALSE	
rushter/MachineLearningAlgorithms	FALSE	FALSE	
hardikvasa/google-images-download	FALSE	FALSE	
eriklindernoren/PyTorch-YOLOv3	FALSE	FALSE	
Cadene/pretrained-models.pytorch	FALSE	FALSE	
jwyang/faster-rcnn.pytorch	FALSE	FALSE	
s0md3v/XSSStrike	FALSE	FALSE	
deepmind/sonnet	FALSE	FALSE	
Yelp/elastalert	FALSE	FALSE	
google/dopamine	FALSE	TRUE	idna/2.10,
postmanlabs/httpbin	FALSE	FALSE	
ytisf/theZoo	FALSE	FALSE	
twintproject/twint	FALSE	FALSE	
wangshub/Douyin-Bot	FALSE	FALSE	
trustedsec/social-engineer-toolkit	FALSE	FALSE	
chriskiehl/Goey	FALSE	FALSE	
sovereign/sovereign	FALSE	FALSE	
psf/requests-html	FALSE	TRUE	idna/2.9,
donnemartin/awesome-aws	FALSE	FALSE	
Rapptz/discord.py	FALSE	FALSE	
paramiko/paramiko	FALSE	FALSE	
JaidevAI/EasyOCR	FALSE	FALSE	
EpistasisLab/tpot	FALSE	FALSE	
alexjc/neural-doodle	FALSE	FALSE	



sylnsfar/qrcode	FALSE	FALSE	
dvf/blockchain	FALSE	TRUE	idna/2.6,
netbox-community/netbox	FALSE	FALSE	
searx/searx	FALSE	TRUE	idna/2.10,
SecureAuthCorp/impacket	FALSE	FALSE	
rsms/inter	FALSE	FALSE	
benoitc/gunicorn	FALSE	FALSE	
PaddlePaddle/PaddleOCR	FALSE	FALSE	
OpenMined/PySyft	FALSE	FALSE	
Ira/mackup	FALSE	TRUE	idna/2.9,
numenta/nupic	FALSE	FALSE	
python-visualization/folium	FALSE	FALSE	
Eloston/ungoogled-chromium	FALSE	FALSE	
facebookresearch/ParlAI	FALSE	FALSE	
mailpile/Mailpile	FALSE	TRUE	idna,
jvns/pandas-cookbook	FALSE	FALSE	
AlessandroZ/LaZagne	FALSE	FALSE	
QUANTAXIS/QUANTAXIS	FALSE	FALSE	
rq/rq	FALSE	FALSE	
beurtschipper/Depix	FALSE	FALSE	
jupyterhub/jupyterhub	FALSE	FALSE	
gleitz/howdoi	FALSE	FALSE	
tkipf/gcn	FALSE	FALSE	
apenwarr/sshuttle	FALSE	FALSE	
OlafenwaMoses/ImageAI	FALSE	FALSE	
dbcli/mycli	FALSE	FALSE	
qgis/QGIS	FALSE	FALSE	
django-oscar/django-oscar	FALSE	FALSE	
OpenNMT/OpenNMT-py	FALSE	FALSE	
s0md3v/Photon	FALSE	FALSE	
robotframework/robotframework	FALSE	FALSE	
sloria/TextBlob	FALSE	FALSE	
fizyr/keras-retinanet	FALSE	FALSE	
ranger/ranger	FALSE	FALSE	
anishathalye/neural-style	FALSE	FALSE	
PyMySQL/PyMySQL	FALSE	FALSE	
boto/boto3	FALSE	FALSE	
idank/explainshell	FALSE	FALSE	
openshift/openshift-ansible	FALSE	FALSE	
dbader/schedule	FALSE	FALSE	
aboul3la/Sublist3r	FALSE	FALSE	
dbcli/pgcli	FALSE	FALSE	
uber/ludwig	FALSE	FALSE	
trekhleb/learn-python	FALSE	FALSE	



kubernetes-client/python	FALSE	FALSE	
chyroc/WechatSogou	FALSE	FALSE	
webpy/webpy	FALSE	FALSE	
docker/docker-py	FALSE	TRUE	idna/2.5,
pymc-devs/pymc3	FALSE	FALSE	
rmax/scrapy-redis	FALSE	FALSE	
Linzaer/Ultra-Light-Fast-Generic-Face-Detector-1MB	FALSE	FALSE	
karpathy/neuraltalk	FALSE	FALSE	
xingyizhou/CenterNet	FALSE	FALSE	
aws/chalice	FALSE	FALSE	
buildbot/buildbot	FALSE	TRUE	idna/2.10,
Hironsan/BossSensor	FALSE	FALSE	
houtianze/bypy	FALSE	FALSE	
emilybache/GildedRose-Refactoring-Kata	FALSE	FALSE	
jofpin/trape	FALSE	FALSE	
shidenggui/easytrader	FALSE	TRUE	idna/2.7,
maurosoria/dirsearch	FALSE	FALSE	
liangliangyy/DjangoBlog	FALSE	TRUE	idna/2.10,
worldveil/dejavu	FALSE	FALSE	
cython/cython	FALSE	FALSE	
sshwsfc/xadmin	FALSE	FALSE	
ibab/tensorflow-wavenet	FALSE	FALSE	
crazyguitar/pysheet	FALSE	FALSE	
Zulko/moviepy	FALSE	TRUE	idna/2.8,
PokemonGoF/PokemonGo-Bot	FALSE	FALSE	
render-examples/fastai-v3	FALSE	FALSE	
iloonet/tf-pose-estimation	FALSE	FALSE	
flask-admin/flask-admin	FALSE	TRUE	email-validator,
midgetspy/Sick-Beard	FALSE	FALSE	
Just-Some-Bots/MusicBot	FALSE	FALSE	
SpiderClub/weibospider	FALSE	FALSE	
jaungiers/LSTM-Neural-Network-for-Time-Series-Prediction	FALSE	FALSE	
NVlabs/SPADE	FALSE	FALSE	
tkarras/progressive_growing_of_gans	FALSE	FALSE	
ricequant/rqalpha	FALSE	FALSE	
harelba/q	FALSE	FALSE	
y1ndan/genshin-impact-helper	FALSE	FALSE	
drivendata/cookiecutter-data-science	FALSE	FALSE	
httpie/http-prompt	FALSE	FALSE	
ajenti/ajenti	FALSE	FALSE	
spulec/moto	FALSE	FALSE	
smicallef/spiderfoot	FALSE	FALSE	



rwrightman/pytorch-image-models	FALSE	FALSE	
facebookresearch/pytext	FALSE	FALSE	
MagicStack/uvloop	FALSE	FALSE	
freqtrade/freqtrade	FALSE	FALSE	
django-extensions/django-extensions	FALSE	FALSE	
taigaio/taiga-back	FALSE	TRUE	idna/2.8,
scikit-learn-contrib/imbalanced-learn	FALSE	FALSE	
RocketMap/RocketMap	FALSE	FALSE	
facebookresearch/pifuhd	FALSE	FALSE	
maxbbraun/trump2cash	FALSE	FALSE	
detailyang/awesome-cheatsheet	FALSE	FALSE	
gevent/gevent	FALSE	FALSE	
qiyeboy/IPProxyPool	FALSE	FALSE	
SmirkCao/Lihang	FALSE	FALSE	
automl/auto-sklearn	FALSE	FALSE	
karpathy/arxiv-sanity-preserver	FALSE	FALSE	
the-paperless-project/paperless	FALSE	TRUE	idna/2.8,
PyGithub/PyGithub	FALSE	FALSE	
chineseocr/chineseocr	FALSE	FALSE	
ckan/ckan	FALSE	TRUE	idna/2.10,
ohld/igbot	FALSE	TRUE	idna,
facebookresearch/detr	FALSE	FALSE	
donnemartin/gitsome	FALSE	FALSE	
NullArray/AutoSploit	FALSE	FALSE	
newsapps/beeswithmachineguns	FALSE	FALSE	
arrow-py/arrow	FALSE	FALSE	
dpkp/kafka-python	FALSE	FALSE	
gaussic/text-classification-cnn-rnn	FALSE	FALSE	
learn-co-students/function-arguments-lab-data-science-intro-000	FALSE	FALSE	
altair-viz/altair	FALSE	FALSE	
mxrch/GHunt	FALSE	FALSE	
lancopku/pkuseg-python	FALSE	FALSE	
1adrianb/face-alignment	FALSE	FALSE	
deepmipt/DeepPavlov	FALSE	FALSE	
coala/coala	FALSE	FALSE	
ronreiter/interactive-tutorials	FALSE	FALSE	
b-ryan/powerline-shell	FALSE	FALSE	
byt3bl33d3r/CrackMapExec	FALSE	TRUE	idna/2.10,
awslabs/aws-shell	FALSE	FALSE	
django-tastypie/django-tastypie	FALSE	FALSE	
eragonruan/text-detection-ctpn	FALSE	FALSE	
navdeep-G/samplemod	FALSE	FALSE	



learn-co-students/conditionals-python-lab-data-science-intro-000	FALSE	FALSE	
mrjbq7/ta-lib	FALSE	FALSE	
burnash/gspread	FALSE	FALSE	
dxa4481/truffleHog	FALSE	FALSE	
miguelgrinberg/microblog	FALSE	TRUE	idna/2.6,
streamlink/streamlink	FALSE	FALSE	
audreyfeldroy/cookiecutter-pypackage	FALSE	FALSE	
SpiderClub/haiproxy	FALSE	FALSE	
Azure/azure-cli	FALSE	FALSE	
microsoft/Bringing-Old-Photos-Back-to-Life	FALSE	FALSE	
alteryx/featuretools	FALSE	FALSE	
kennethreitz-archive/records	FALSE	FALSE	
alicevision/meshroom	FALSE	FALSE	
yandex/gixy	FALSE	FALSE	
welliamcao/OpsManage	FALSE	TRUE	idna/2.7,
Qiskit/qiskit-terra	FALSE	FALSE	
oppia/oppia	FALSE	TRUE	idna/2.10,
QuantEcon/QuantEcon.py	FALSE	FALSE	
david-gpu/srez	FALSE	FALSE	
sshuttle/sshuttle	FALSE	FALSE	
hunkim/PyTorchZeroToAll	FALSE	FALSE	
NicolasHug/Surprise	FALSE	FALSE	
Kyubyong/transformer	FALSE	FALSE	
laramies/theHarvester	FALSE	TRUE	idna/2.9,
MongoEngine/mongoengine	FALSE	FALSE	
guhongze/adminset	FALSE	TRUE	idna/2.6,
CTFd/CTFd	FALSE	TRUE	idna/2.10,
ysrc/xunfeng	FALSE	FALSE	
Lasagne/Lasagne	FALSE	FALSE	
eternnoir/pyTelegramBotAPI	FALSE	FALSE	
heroku/heroku-buildpack-python	FALSE	FALSE	
offu/WeRoBot	FALSE	FALSE	
dsgiitr/d2l-pytorch	FALSE	FALSE	
frappe/frappe	FALSE	FALSE	
milesial/Pytorch-UNet	FALSE	FALSE	
YadiraF/PRNet	FALSE	FALSE	
NVIDIA/apex	FALSE	FALSE	
PaddlePaddle/PaddleHub	FALSE	FALSE	
codertimo/BERT-pytorch	FALSE	FALSE	
PaddlePaddle/ERNIE	FALSE	FALSE	
AirtestProject/Airtest	FALSE	FALSE	
Conchylicultor/DeepQA	FALSE	FALSE	
PrefectHQ/prefect	FALSE	FALSE	



facebookarchive/python-instagram	FALSE	FALSE	
SirVer/ultisnips	FALSE	FALSE	
vt-vl-lab/3d-photo-inpainting	FALSE	FALSE	
trustedsec/ptf	FALSE	FALSE	
STVIR/pysot	FALSE	FALSE	
ranaroussi/yfinance	FALSE	FALSE	
encode/apistar	FALSE	FALSE	
amoffat/sh	FALSE	FALSE	
the0demiurge/ShadowSocksShare	FALSE	FALSE	
tyiannak/pyAudioAnalysis	FALSE	FALSE	
facebookresearch/DrQA	FALSE	FALSE	
yahoo/TensorFlowOnSpark	FALSE	FALSE	
omab/python-social-auth	FALSE	FALSE	
mongodb/docs	FALSE	FALSE	
Showndarya/Hacktoberfest	FALSE	FALSE	
pandolia/qqbot	FALSE	FALSE	
Netflix/security_monkey	FALSE	TRUE	idna/2.8, email- validator/1.1.1,
kyb3r/modmail	FALSE	TRUE	idna/2.8,
snorkel-team/snorkel	FALSE	FALSE	
NervanaSystems/neon	FALSE	FALSE	
vaexio/vaex	FALSE	FALSE	
r0oth3x49/udemy-dl	FALSE	FALSE	
doccano/doccano	FALSE	FALSE	
lisa-lab/pylearn2	FALSE	FALSE	
modin-project/modin	FALSE	FALSE	
joestump/python-oauth2	FALSE	FALSE	
cloud-custodian/cloud-custodian	FALSE	TRUE	idna/2.10,
achael/eht-imaging	FALSE	FALSE	
yzhao062/pyod	FALSE	FALSE	
Ultimaker/Cura	FALSE	TRUE	idna/2.8,
dataabc/weiboSpider	FALSE	FALSE	
kangvcar/InfoSpider	FALSE	FALSE	
okfn-brasil/serenata-de-amor	FALSE	FALSE	
byt3bl33d3r/MITMf	FALSE	FALSE	
danmar/cppcheck	FALSE	FALSE	
msracver/Deformable-ConvNets	FALSE	FALSE	
arachnys/cabot	FALSE	FALSE	
vibora-io/vibora	FALSE	FALSE	
dpgaspar/Flask-AppBuilder	FALSE	TRUE	idna/2.9, email- validator/1.0.5,
CSAILVision/semantic-segmentation-pytorch	FALSE	FALSE	
realpython/discover-flask	FALSE	FALSE	



minimaxir/textgenrnn	FALSE	FALSE	
elastic/elasticsearch-py	FALSE	FALSE	
pre-commit/pre-commit	FALSE	FALSE	
LonamiWebs/Telethon	FALSE	FALSE	
bear/python-twitter	FALSE	FALSE	
pyca/cryptography	FALSE	FALSE	
django-crispy-forms/django-crispy-forms	FALSE	FALSE	
ashnkumar/sketch-code	FALSE	FALSE	
NTMC-Community/MatchZoo	FALSE	FALSE	
Morizeyao/GPT2-Chinese	FALSE	FALSE	
stamparm/maltrail	FALSE	FALSE	
scipy-lectures/scipy-lecture-notes	FALSE	FALSE	
openstack/neutron	FALSE	FALSE	
xmendez/wfuzz	FALSE	FALSE	
testcontainers/testcontainers-java	FALSE	FALSE	
schemaorg/schemaorg	FALSE	FALSE	
wireservice/csvkit	FALSE	FALSE	
androgard/androgard	FALSE	FALSE	
gorakhgosh/watchdog	FALSE	FALSE	
encode/starlette	FALSE	FALSE	
PyCQA/pycodestyle	FALSE	FALSE	
10se1ucgo/DisableWinTracking	FALSE	FALSE	
mahmoud/boltions	FALSE	FALSE	
Ciphey/Ciphey	FALSE	TRUE	idna/2.10,
grangier/python-goose	FALSE	FALSE	
RasaHQ/rasa_core	FALSE	FALSE	
bowenpay/wechat-spider	FALSE	FALSE	
buriburisuri/speech-to-text-wavenet	FALSE	FALSE	
janeczku/calibre-web	FALSE	FALSE	
yugabyte/yugabyte-db	FALSE	FALSE	
andabi/deep-voice-conversion	FALSE	FALSE	
UKPLab/sentence-transformers	FALSE	FALSE	
Sentdex/pygtat5	FALSE	FALSE	
facebookresearch/mmf	FALSE	FALSE	
joeyespo/grip	FALSE	FALSE	
TingsongYu/PyTorch_Tutorial	FALSE	FALSE	
HIT-SCIR/ltp	FALSE	FALSE	
kkroening/ffmpeg-python	FALSE	TRUE	idna/2.8,
astorfi/TensorFlow-World	FALSE	FALSE	
chrippa/livestreamer	FALSE	FALSE	
StackStorm/st2	FALSE	FALSE	
thunlp/OpenNRE	FALSE	FALSE	
lmcinnes/umap	FALSE	FALSE	
greyli/helloflask	FALSE	FALSE	



Azure/azure-sdk-for-python	FALSE	FALSE	
sammchardy/python-binance	FALSE	FALSE	
nficano/pytube	FALSE	TRUE	idna/2.8,
fikovnik/ShiftIt	FALSE	TRUE	idna/2.6,
WhaleShark-Team/cobra	FALSE	FALSE	
senguptaumd/Background-Matting	FALSE	FALSE	
rafaelpadilla/Object-Detection-Metrics	FALSE	FALSE	
openatx/uiautomator2	FALSE	FALSE	
rasbt/mlxtend	FALSE	FALSE	
meetshah1995/pytorch-semseg	FALSE	FALSE	
OpenDroneMap/ODM	FALSE	FALSE	
sclorg/django-ex	FALSE	FALSE	
AKSHAYUBHAT/DeepVideoAnalytics	FALSE	FALSE	
mzucker/noteshrink	FALSE	FALSE	
cowrie/cowrie	FALSE	FALSE	
tychxn/jd-assistant	FALSE	FALSE	
foolwood/SiamMask	FALSE	FALSE	
openai/jukebox	FALSE	FALSE	
zalando/connexion	FALSE	FALSE	
shidenggui/easyquant	FALSE	FALSE	
p-christ/Deep-Reinforcement-Learning-Algorithms-with-PyTorch	FALSE	FALSE	
Yelp/dumb-init	FALSE	FALSE	
openstack/horizon	FALSE	FALSE	
DarkSecDevelopers/HiddenEye-Legacy	TRUE	TRUE	idna/2.10,
ab77/netflix-proxy	FALSE	FALSE	
donnemartin/saws	FALSE	FALSE	
AllenDowney/ModSimPy	FALSE	FALSE	
python/typeshed	FALSE	FALSE	
cgrok/selfbot.py	FALSE	FALSE	
omab/django-social-auth	FALSE	FALSE	
esphome/esphome	FALSE	FALSE	
lyst/lightfm	FALSE	FALSE	
facebook/PathPicker	FALSE	FALSE	
urllib3/urllib3	FALSE	FALSE	
gitpython-developers/GitPython	FALSE	FALSE	
keithito/tacotron	FALSE	FALSE	
Kinto/kinto	FALSE	TRUE	idna/2.10,
michael-lazar/rtv	FALSE	FALSE	
brython-dev/brython	FALSE	FALSE	
samuelhwilliams/Eel	FALSE	FALSE	
egrcc/zhihu-python	FALSE	FALSE	
thunil/TecoGAN	FALSE	FALSE	
lolripgg/thinkster-django-angular-boilerplate	FALSE	FALSE	



sightmachine/SimpleCV	FALSE	FALSE	
google/clusterfuzz	FALSE	TRUE	idna/2.9,
martinarjovsky/WassersteinGAN	FALSE	FALSE	
ktbyers/netmiko	FALSE	FALSE	
rembo10/headphones	FALSE	FALSE	
nuno-faria/tiler	FALSE	FALSE	
shidenggui/easyquotation	FALSE	TRUE	idna/2.7,
smacke/ffsubsync	FALSE	FALSE	
DeepLabCut/DeepLabCut	FALSE	FALSE	
zalando/patroni	FALSE	FALSE	
KaiyangZhou/deep-person-reid	FALSE	FALSE	
qubvel/segmentation_models	FALSE	FALSE	
hhyo/Archery	FALSE	FALSE	
wzpan/wukong-robot	FALSE	FALSE	
pika/pika	FALSE	FALSE	
facebookarchive/huxley	FALSE	FALSE	
PacktPublishing/Deep-Reinforcement-Learning-Hands-On	FALSE	FALSE	
neozhaoliang/pywonderland	FALSE	FALSE	
madmaze/pytesseract	FALSE	FALSE	
cemoody/lda2vec	FALSE	FALSE	
Guake/guake	FALSE	TRUE	idna/2.9,
seemoo-lab/opendrop	FALSE	FALSE	
rlcode/reinforcement-learning	FALSE	FALSE	
Python3WebSpider/ProxyPool	FALSE	FALSE	
pwndbg/pwndbg	FALSE	FALSE	
hugsy/gef	FALSE	FALSE	
apache/libcloud	FALSE	FALSE	
biolab/orange3	FALSE	FALSE	
stewartmcgown/uds	FALSE	FALSE	
t00t00-crypto/wyy-action	FALSE	FALSE	
elastic/curator	FALSE	FALSE	
python-openxml/python-docx	FALSE	FALSE	
rajkumardusad/Tool-X	FALSE	TRUE	idna,
Ehco1996/django-sspanel	FALSE	FALSE	
tensorlayer/srgan	FALSE	FALSE	
pi-hole/docker-pi-hole	FALSE	TRUE	idna/2.8,
Bitwise-01/Instagram-	FALSE	FALSE	
zhaipro/easy12306	FALSE	FALSE	
tsuru/tsuru	FALSE	FALSE	
Tianxiaomo/pytorch-YOLOv4	FALSE	FALSE	
binux/qiandao	FALSE	FALSE	
maxcountryman/flask-login	FALSE	FALSE	
phanein/deepwalk	FALSE	FALSE	



uber/kraken	FALSE	FALSE	
run-youngjoo/SC-FEGAN	FALSE	FALSE	
clearusk/3DDFA	FALSE	FALSE	
mwouts/jupyter	FALSE	FALSE	
avinassh/rockstar	FALSE	FALSE	
healthchecks/healthchecks	FALSE	FALSE	
hylang/hy	FALSE	FALSE	
jarun/buku	FALSE	FALSE	
nylas/sync-engine	FALSE	FALSE	
sensepost/objection	FALSE	FALSE	
nteract/papermill	FALSE	FALSE	
pytransitions/transitions	FALSE	FALSE	
Neo23x0/sigma	FALSE	TRUE	idna/2.9,
danfengcao/binlog2sql	FALSE	FALSE	
MechanicalSoup/MechanicalSoup	FALSE	FALSE	
j3ssie/Osmedeus	FALSE	FALSE	
linkedin/school-of-sre	FALSE	FALSE	
marcgibbons/django-rest-swagger	FALSE	FALSE	
scrapinghub/splash	FALSE	FALSE	
richzhang/colorization	FALSE	FALSE	
internetarchive/openlibrary	FALSE	FALSE	
DistrictDataLabs/yellowbrick	FALSE	FALSE	
mozillazg/python-pinyin	FALSE	FALSE	
pytorch/text	FALSE	FALSE	
momosecurity/aswan	FALSE	FALSE	
aploium/zmirror	FALSE	FALSE	
spyoungtech/grequests	FALSE	FALSE	
lanjelot/patator	FALSE	FALSE	
swapagarwal/JARVIS-on-Messenger	FALSE	TRUE	idna/2.1,
zzw922cn/Automatic_Speech_Recognition	FALSE	FALSE	
googlefonts/roboto	FALSE	FALSE	
Rayhane-mamah/Tacotron-2	FALSE	FALSE	
django-guardian/django-guardian	FALSE	FALSE	