Awesome Python  [https://github.com/sindresorhus/awesome]

A curated list of awesome Python frameworks, libraries, software and resources.

Inspired by awesome-php [https://github.com/ziadoz/awesome-php].

- Computer Vision [#computer-vision]
- Concurrency and Parallelism [#concurrency-and-parallelism]
- Configuration [#configuration]
- Cryptography [#cryptography]
- Data Analysis [#data-analysis]
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- Processes [#processes]
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- RESTful API [#restful-api]
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- Science [#science]
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- Specific Formats Processing [#specific-formats-processing]
- Static Site Generator [#static-site-generator]
- Tagging [#tagging]
- Task Queues [#task-queues]
- Template Engine [#template-engine]
- Testing [#testing]
- Text Processing [#text-processing]
- Third-party APIs [#third-party-apis]
- URL Manipulation [#url-manipulation]
- Video [#video]
- Web Asset Management [#web-asset-management]
- Web Content Extracting [#web-content-extracting]
- Web Crawling [#web-crawling]

Admin Panels

Libraries for administrative interfaces.

- ajenti [https://github.com/ajenti/ajenti] - The admin panel your servers deserve.
- django-grappelli [https://grappelliproject.com/] - A jazzy skin for the Django Admin-Interface.
- django-jet [https://github.com/geex-arts/django-jet] - Modern responsive template for the Django admin interface with improved functionality.
- django-suit [https://djangosuit.com/] - Alternative Django Admin-Interface (free only for Non-commercial use).
- django-xadmin [https://github.com/sshwsfc/xadmin] - Drop-in replacement of Django admin comes with lots of goodies.
- flask-admin [https://github.com/flask-admin/flask-admin] - Simple and extensible administrative interface framework for Flask.
- flower [https://github.com/mher/flower] - Real-time monitor and web admin for

Celery.

- jet-bridge [https://github.com/jet-admin/jet-bridge] - Admin panel framework for any application with nice UI (ex Jet Django)
- wooey [https://github.com/wooey/wooey] - A Django app which creates automatic web UIs for Python scripts.

Algorithms and Design Patterns

Python implementation of data structures, algorithms and design patterns. Also see awesome-algorithms [https://github.com/tayllan/awesome-algorithms].

- Algorithms
  - algorithms [https://github.com/keon/algorithms] - Minimal examples of data structures and algorithms.
  - python-ds [https://github.com/prabhupant/python-ds] - A collection of data structure and algorithms for coding interviews.
  - sortedcontainers [https://github.com/grantjenks/python-sortedcontainers] - Fast and pure-Python implementation of sorted collections.
  - TheAlgorithms [https://github.com/TheAlgorithms/Python] - All Algorithms implemented in Python.
- Design Patterns
  - PyPattyrn [https://github.com/tylerlaberge/PyPattyrn] - A simple yet effective library for implementing common design patterns.
  - python-patterns [https://github.com/faif/python-patterns] - A collection of design patterns in Python.
  - transitions [https://github.com/pytransitions/transitions] - A lightweight, object-oriented finite state machine implementation.

ASGI Servers

ASGI [https://asgi.readthedocs.io/en/latest/]-compatible web servers.

- daphne [https://github.com/django/daphne] - A HTTP, HTTP2 and WebSocket protocol server for ASGI and ASGI-HTTP.
- uvicorn [https://github.com/encode/uvicorn] - A lightning-fast ASGI server implementation, using uvloop and httptools.

Asynchronous Programming

- asyncio [https://docs.python.org/3/library/asyncio.html] - (Python standard library) Asynchronous I/O, event loop, coroutines and tasks.
  - awesome-asyncio [https://github.com/timofurrer/awesome-asyncio]
- trio [https://github.com/python-trio/trio] - A friendly library for async concurrency and I/O.
- Twisted [https://twistedmatrix.com/trac/] - An event-driven networking engine.
- uvloop [https://github.com/MagicStack/uvloop] - Ultra fast asyncio event loop.

Audio

Libraries for manipulating audio and its metadata.

- Audio
  - audioread [https://github.com/beetbox/audioread] - Cross-library (GStreamer + Core Audio + MAD + FFmpeg) audio decoding.
  - dejavu [https://github.com/worldveil/dejavu] - Audio fingerprinting and recognition.
  - kapre [https://github.com/keunwoochoi/kapre] - Keras Audio

  Preprocessors
  - librosa [https://github.com/librosa/librosa] - Python library for audio and music analysis
  - matchering [https://github.com/sergree/matchering] - A library for automated reference audio mastering.
  - mingus [https://bspaans.github.io/python-mingus/] - An advanced music theory and notation package with MIDI file and playback support.
  - pyAudioAnalysis [https://github.com/tyiannak/pyAudioAnalysis] - Audio feature extraction, classification, segmentation and applications.
  - pydub [https://github.com/jiaaro/pydub] - Manipulate audio with a simple and easy high level interface.
  - TimeSide [https://github.com/Parisson/TimeSide] - Open web audio processing framework.
- Metadata
  - beets [https://github.com/beetbox/beets] - A music library manager and MusicBrainz [https://musicbrainz.org/] tagger.
  - eyeD3 [https://github.com/nicfit/eyeD3] - A tool for working with audio files, specifically MP3 files containing ID3 metadata.
  - mutagen [https://github.com/quodlibet/mutagen] - A Python module to handle audio metadata.
  - tinytag [https://github.com/devsnd/tinytag] - A library for reading music meta data of MP3, OGG, FLAC and Wave files.

Authentication

Libraries for implementing authentications schemes.

- OAuth

    - authlib [https://github.com/lepture/authlib] - JavaScript Object Signing and Encryption draft implementation.
    - django-allauth [https://github.com/pennersr/django-allauth] - Authentication app for Django that "just works."
    - django-oauth-toolkit [https://github.com/evonove/django-oauth-toolkit] - OAuth 2 goodies for Django.
    - oauthlib [https://github.com/idan/oauthlib] - A generic and thorough implementation of the OAuth request-signing logic.
    - python-oauth2 [https://github.com/joestump/python-oauth2] - A fully tested, abstract interface to creating OAuth clients and servers.
    - python-social-auth [https://github.com/omab/python-social-auth] - An easy-to-setup social authentication mechanism.
- JWT
    - pyjwt [https://github.com/jpadilla/pyjwt] - JSON Web Token implementation in Python.
    - python-jose [https://github.com/mpdavis/python-jose/] - A JOSE implementation in Python.
    - python-jwt [https://github.com/davedoesdev/python-jwt] - A module for generating and verifying JSON Web Tokens.

Build Tools

Compile software from source code.

- BitBake [https://www.yoctoproject.org/docs/1.6/bitbake-user-manual/bitbake-user-manual.html] - A make-like build tool for embedded Linux.
- buildout [http://www.buildout.org/en/latest/] - A build system for creating, assembling and deploying applications from multiple parts.

- PlatformIO [https://github.com/platformio/platformio-core] - A console tool to build code with different development platforms.
- pybuilder [https://github.com/pybuilder/pybuilder] - A continuous build tool written in pure Python.
- SCons [http://www.scons.org/] - A software construction tool.

Built-in Classes Enhancement

Libraries for enhancing Python built-in classes.

- attrs [https://github.com/python-attrs/attrs] - Replacement for `__init__`, `__eq__`, `__repr__`, etc. boilerplate in class definitions.
- bidict [https://github.com/jab/bidict] - Efficient, Pythonic bidirectional map data structures and related functionality..
- Box [https://github.com/cdgriffith/Box] - Python dictionaries with advanced dot notation access.
- dataclasses [https://docs.python.org/3/library/dataclasses.html] - (Python standard library) Data classes.
- DottedDict [https://github.com/carlosescri/DottedDict] - A library that provides a method of accessing lists and dicts with a dotted path notation.

CMS

Content Management Systems.

- django-cms [https://www.django-cms.org/en/] - An Open source enterprise CMS based on the Django.
- feincms [https://github.com/feincms/feincms] - One of the most advanced Content Management Systems built on Django.

- indico [https://github.com/indico/indico] - A feature-rich event management system, made @ CERN [https://en.wikipedia.org/wiki/CERN].
- Kotti [https://github.com/Kotti/Kotti] - A high-level, Pythonic web application framework built on Pyramid.
- mezzanine [https://github.com/stephenmcd/mezzanine] - A powerful, consistent, and flexible content management platform.
- plone [https://plone.org/] - A CMS built on top of the open source application server Zope.
- quokka [https://github.com/rochacbruno/quokka] - Flexible, extensible, small CMS powered by Flask and MongoDB.
- wagtail [https://wagtail.io/] - A Django content management system.

Caching

Libraries for caching data.

- beaker [https://github.com/bbangert/beaker] - A WSGI middleware for sessions and caching.
- django-cache-machine [https://github.com/django-cache-machine/django-cache-machine] - Automatic caching and invalidation for Django models.
- django-cacheops [https://github.com/Suor/django-cacheops] - A slick ORM cache with automatic granular event-driven invalidation.
- dogpile.cache [https://dogpilecache.readthedocs.io/en/latest/] - dogpile.cache is next generation replacement for Beaker made by same authors.
- HermesCache [https://pypi.org/project/HermesCache/] - Python caching library with tag-based invalidation and dogpile effect prevention.
- pylibmc [https://github.com/lericson/pylibmc] - A Python wrapper around the libmemcached [https://libmemcached.org/libMemcached.html] interface.

- python-diskcache [http://www.grantjenks.com/docs/diskcache/] - SQLite and file backed cache backend with faster lookups than memcached and redis.

ChatOps Tools

Libraries for chatbot development.

- errbot [https://github.com/errbotio/errbot/] - The easiest and most popular chatbot to implement ChatOps.

Code Analysis

Tools of static analysis, linters and code quality checkers. Also see awesome-static-analysis [https://github.com/mre/awesome-static-analysis].

- Code Analysis
  - coala [https://github.com/coala/coala/] - Language independent and easily extendable code analysis application.
  - code2flow [https://github.com/scottrogowski/code2flow] - Turn your Python and JavaScript code into DOT flowcharts.
  - prospector [https://github.com/PyCQA/prospector] - A tool to analyse Python code.
  - pycallgraph [https://github.com/gak/pycallgraph] - A library that visualises the flow (call graph) of your Python application.
  - vulture [https://github.com/jendrikseipp/vulture] - A tool for finding and analysing dead Python code.
- Code Linters
  - flake8 [https://pypi.org/project/flake8/] - A wrapper around `pycodestyle`, `pyflakes` and McCabe.

        - awesome-flake8-extensions [https://github.com/DmytroLitvinov/awesome-flake8-extensions]
    - pylama [https://github.com/klen/pylama] - A code audit tool for Python and JavaScript.
    - pylint [https://www.pylint.org/] - A fully customizable source code analyzer.
    - wemake-python-styleguide [https://github.com/wemake-services/wemake-python-styleguide] - The strictest and most opinionated python linter ever.
- Code Formatters
    - black [https://github.com/python/black] - The uncompromising Python code formatter.
    - isort [https://github.com/timothycrosley/isort] - A Python utility / library to sort imports.
    - yapf [https://github.com/google/yapf] - Yet another Python code formatter from Google.
- Static Type Checkers, also see awesome-python-typing [https://github.com/typeddjango/awesome-python-typing]
    - mypy [http://mypy-lang.org/] - Check variable types during compile time.
    - pyre-check [https://github.com/facebook/pyre-check] - Performant type checking.
    - typeshed [https://github.com/python/typeshed] - Collection of library stubs for Python, with static types.
- Static Type Annotations Generators
    - MonkeyType [https://github.com/Instagram/MonkeyType] - A system for Python that generates static type annotations by collecting runtime types.
    - pyannotate [https://github.com/dropbox/pyannotate] - Auto-generate PEP-484 annotations.
    - pytype [https://github.com/google/pytype] - Pytype checks and infers types

for Python code - without requiring type annotations.

Command-line Interface Development

Libraries for building command-line applications.

- Command-line Application Development
  - cement [http://builtoncement.com/] - CLI Application Framework for Python.
  - click [http://click.pocoo.org/dev/] - A package for creating beautiful command line interfaces in a composable way.
  - cliff [https://docs.openstack.org/developer/cliff/] - A framework for creating command-line programs with multi-level commands.
  - docopt [http://docopt.org/] - Pythonic command line arguments parser.
  - python-fire [https://github.com/google/python-fire] - A library for creating command line interfaces from absolutely any Python object.
  - python-prompt-toolkit [https://github.com/jonathanslenders/python-prompt-toolkit] - A library for building powerful interactive command lines.
- Terminal Rendering
  - alive-progress [https://github.com/rsalmei/alive-progress] - A new kind of Progress Bar, with real-time throughput, eta and very cool animations.
  - asciimatics [https://github.com/peterbrittain/asciimatics] - A package to create full-screen text UIs (from interactive forms to ASCII animations).
  - bashplotlib [https://github.com/glamp/bashplotlib] - Making basic plots in the terminal.
  - colorama [https://pypi.org/project/colorama/] - Cross-platform colored terminal text.
  - rich [https://github.com/willmcgugan/rich] - Python library for rich text and

beautiful formatting in the terminal. Also provides a great `RichHandler` log handler.

- tqdm [https://github.com/tqdm/tqdm] - Fast, extensible progress bar for loops and CLI.

Command-line Tools

Useful CLI-based tools for productivity.

- Productivity Tools
  - cookiecutter [https://github.com/audreyr/cookiecutter] - A command-line utility that creates projects from cookiecutters (project templates).
  - copier [https://github.com/pykong/copier] - A library and command-line utility for rendering projects templates.
  - doitlive [https://github.com/sloria/doitlive] - A tool for live presentations in the terminal.
  - howdoi [https://github.com/gleitz/howdoi] - Instant coding answers via the command line.
  - Invoke [https://github.com/pyinvoke/invoke#readme] - A tool for managing shell-oriented subprocesses and organizing executable Python code into CLI-invokable tasks.
  - PathPicker [https://github.com/facebook/PathPicker] - Select files out of bash output.
  - percol [https://github.com/mooz/percol] - Adds flavor of interactive selection to the traditional pipe concept on UNIX.
  - thefuck [https://github.com/nvbn/thefuck] - Correcting your previous console command.
  - tmuxp [https://github.com/tony/tmuxp] - A tmux [https://github.com

/tmux/tmux] session manager.

  - try [https://github.com/timofurrer/try] - A dead simple CLI to try out python packages - it's never been easier.

- CLI Enhancements
  - httpie [https://github.com/jakubroztocil/httpie] - A command line HTTP client, a user-friendly cURL replacement.
  - iredis [https://github.com/laixintao/iredis] - Redis CLI with autocompletion and syntax highlighting.
  - kube-shell [https://github.com/cloudnativelabs/kube-shell] - An integrated shell for working with the Kubernetes CLI.
  - litecli [https://github.com/dbcli/litecli] - SQLite CLI with autocompletion and syntax highlighting.
  - mycli [https://github.com/dbcli/mycli] - MySQL CLI with autocompletion and syntax highlighting.
  - pgcli [https://github.com/dbcli/pgcli] - PostgreSQL CLI with autocompletion and syntax highlighting.
  - saws [https://github.com/donnemartin/saws] - A Supercharged aws-cli [https://github.com/aws/aws-cli].

Compatibility

Libraries for migrating from Python 2 to 3.

- modernize [https://github.com/PyCQA/modernize] - Modernizes Python code for eventual Python 3 migration.
- python-future [http://python-future.org/index.html] - The missing compatibility layer between Python 2 and Python 3.
- six [https://pypi.org/project/six/] - Python 2 and 3 compatibility utilities.

Computer Vision

Libraries for Computer Vision.

- EasyOCR [https://github.com/JaidedAI/EasyOCR] - Ready-to-use OCR with 40+ languages supported.
- Face Recognition [https://github.com/ageitgey/face_recognition] - Simple facial recognition library.
- Kornia [https://github.com/kornia/kornia/] - Open Source Differentiable Computer Vision Library for PyTorch.
- OpenCV [https://opencv.org/] - Open Source Computer Vision Library.
- pytesseract [https://github.com/madmaze/pytesseract] - A wrapper for Google Tesseract OCR [https://github.com/tesseract-ocr].
- SimpleCV [https://github.com/sightmachine/SimpleCV] - An open source framework for building computer vision applications.
- tesserocr [https://github.com/sirfz/tesserocr] - Another simple, Pillow-friendly, wrapper around the `tesseract-ocr` API for OCR.

Concurrency and Parallelism

Libraries for concurrent and parallel execution. Also see awesome-asyncio [https://github.com/timofurrer/awesome-asyncio].

- concurrent.futures [https://docs.python.org/3/library/concurrent.futures.html] - (Python standard library) A high-level interface for asynchronously executing callables.
- eventlet [http://eventlet.net/] - Asynchronous framework with WSGI support.
- gevent [http://www.gevent.org/] - A coroutine-based Python networking library that uses greenlet [https://github.com/python-greenlet/greenlet].

- multiprocessing [https://docs.python.org/3/library/multiprocessing.html] - (Python standard library) Process-based parallelism.
- scoop [https://github.com/soravux/scoop] - Scalable Concurrent Operations in Python.
- uvloop [https://github.com/MagicStack/uvloop] - Ultra fast implementation of `asyncio` event loop on top of `libuv`.

Configuration

Libraries for storing and parsing configuration options.

- configobj [https://github.com/DiffSK/configobj] - INI file parser with validation.
- configparser [https://docs.python.org/3/library/configparser.html] - (Python standard library) INI file parser.
- hydra [https://github.com/facebookresearch/hydra] - Hydra is a framework for elegantly configuring complex applications.
- profig [https://profig.readthedocs.io/en/latest/] - Config from multiple formats with value conversion.
- python-decouple [https://github.com/henriquebastos/python-decouple] - Strict separation of settings from code.

Cryptography

- cryptography [https://cryptography.io/en/latest/] - A package designed to expose cryptographic primitives and recipes to Python developers.
- paramiko [https://github.com/paramiko/paramiko] - The leading native Python SSHv2 protocol library.
- passlib [https://passlib.readthedocs.io/en/stable/] - Secure password

storage/hashing library, very high level.

- pynacl [https://github.com/pyca/pynacl] - Python binding to the Networking and Cryptography (NaCl) library.

Data Analysis

Libraries for data analyzing.

- AWS Data Wrangler [https://github.com/awslabs/aws-data-wrangler] - Pandas on AWS.
- Blaze [https://github.com/blaze/blaze] - NumPy and Pandas interface to Big Data.
- Open Mining [https://github.com/mining/mining] - Business Intelligence (BI) in Pandas interface.
- Optimus [https://github.com/ironmussa/Optimus] - Agile Data Science Workflows made easy with PySpark.
- Orange [https://orange.biolab.si/] - Data mining, data visualization, analysis and machine learning through visual programming or scripts.
- Pandas [https://pandas.pydata.org/] - A library providing high-performance, easy-to-use data structures and data analysis tools.

Data Validation

Libraries for validating data. Used for forms in many cases.

- Cerberus [https://github.com/pyeve/cerberus] - A lightweight and extensible data validation library.
- colander [https://docs.pylonsproject.org/projects/colander/en/latest/] - Validating and deserializing data obtained via XML, JSON, an HTML form post.

- jsonschema [https://github.com/Julian/jsonschema] - An implementation of JSON Schema [https://json-schema.org/] for Python.
- schema [https://github.com/keleshev/schema] - A library for validating Python data structures.
- Schematics [https://github.com/schematics/schematics] - Data Structure Validation.
- valideer [https://github.com/podio/valideer] - Lightweight extensible data validation and adaptation library.
- voluptuous [https://github.com/alecthomas/voluptuous] - A Python data validation library.

Data Visualization

Libraries for visualizing data. Also see awesome-javascript [https://github.com/sorrycc/awesome-javascript#data-visualization].

- Altair [https://github.com/altair-viz/altair] - Declarative statistical visualization library for Python.
- Bokeh [https://github.com/bokeh/bokeh] - Interactive Web Plotting for Python.
- bqplot [https://github.com/bloomberg/bqplot] - Interactive Plotting Library for the Jupyter Notebook
- Cartopy [https://github.com/SciTools/cartopy] - A cartographic python library with matplotlib support
- Dash [https://plot.ly/products/dash/] - Built on top of Flask, React and Plotly aimed at analytical web applications.
    - awesome-dash [https://github.com/Acrotrend/awesome-dash]
- diagrams [https://github.com/mingrammer/diagrams] - Diagram as Code.
- Matplotlib [https://matplotlib.org/] - A Python 2D plotting library.

- plotnine [https://github.com/has2k1/plotnine] - A grammar of graphics for Python based on ggplot2.
- Pygal [http://www.pygal.org/en/latest/] - A Python SVG Charts Creator.
- PyGraphviz [https://pypi.org/project/pygraphviz/] - Python interface to Graphviz [https://www.graphviz.org/].
- PyQtGraph [http://www.pyqtgraph.org/] - Interactive and realtime 2D/3D/Image plotting and science/engineering widgets.
- Seaborn [https://github.com/mwaskom/seaborn] - Statistical data visualization using Matplotlib.
- VisPy [https://github.com/vispy/vispy] - High-performance scientific visualization based on OpenGL.

Database

Databases implemented in Python.

- pickleDB [https://github.com/patx/pickledb] - A simple and lightweight key-value store for Python.
- tinydb [https://github.com/msiemens/tinydb] - A tiny, document-oriented database.
- ZODB [https://github.com/zopefoundation/ZODB] - A native object database for Python. A key-value and object graph database.

Database Drivers

Libraries for connecting and operating databases.

- MySQL - awesome-mysql [https://shlomi-noach.github.io/awesome-mysql/]
  - mysqlclient [https://github.com/PyMySQL/mysqlclient-python] - MySQL

connector with Python 3 support (mysql-python [https://sourceforge.net/projects/mysql-python/] fork).

  - PyMySQL [https://github.com/PyMySQL/PyMySQL] - A pure Python MySQL driver compatible to mysql-python.

- PostgreSQL - awesome-postgres [https://github.com/dhamaniasad/awesome-postgres]
  - psycopg2 [http://initd.org/psycopg/] - The most popular PostgreSQL adapter for Python.
  - queries [https://github.com/gmr/queries] - A wrapper of the psycopg2 library for interacting with PostgreSQL.
- SQlite - awesome-sqlite [https://github.com/planetopendata/awesome-sqlite]
  - sqlite3 [https://docs.python.org/3/library/sqlite3.html] - (Python standard library) SQlite interface compliant with DB-API 2.0
  - SuperSQLite [https://github.com/plasticityai/supersqlite] - A supercharged SQLite library built on top of apsw [https://github.com/rogerbinns/apsw].
- Other Relational Databases
  - clickhouse-driver [https://github.com/mymarilyn/clickhouse-driver] - Python driver with native interface for ClickHouse.
  - pymssql [https://pymssql.readthedocs.io/en/latest/] - A simple database interface to Microsoft SQL Server.
- NoSQL Databases
  - cassandra-driver [https://github.com/datastax/python-driver] - The Python Driver for Apache Cassandra.
  - happybase [https://github.com/wbolster/happybase] - A developer-friendly library for Apache HBase.
  - kafka-python [https://github.com/dpkp/kafka-python] - The Python client for Apache Kafka.

    - py2neo [https://py2neo.org/] - A client library and toolkit for working with Neo4j.
    - pymongo [https://github.com/mongodb/mongo-python-driver] - The official Python client for MongoDB.
    - redis-py [https://github.com/andymccurdy/redis-py] - The Python client for Redis.
- Asynchronous Clients
    - motor [https://github.com/mongodb/motor] - The async Python driver for MongoDB.

Date and Time

Libraries for working with dates and times.

- Arrow [https://arrow.readthedocs.io/en/latest/] - A Python library that offers a sensible and human-friendly approach to creating, manipulating, formatting and converting dates, times and timestamps.
- Chronyk [https://github.com/KoffeinFlummi/Chronyk] - A Python 3 library for parsing human-written times and dates.
- dateutil [https://github.com/dateutil/dateutil] - Extensions to the standard Python datetime [https://docs.python.org/3/library/datetime.html] module.
- delorean [https://github.com/myusuf3/delorean/] - A library for clearing up the inconvenient truths that arise dealing with datetimes.
- maya [https://github.com/timofurrer/maya] - Datetimes for Humans.
- moment [https://github.com/zachwill/moment] - A Python library for dealing with dates/times. Inspired by Moment.js [http://momentjs.com/].
- Pendulum [https://github.com/sdispater/pendulum] - Python datetimes made easy.

- PyTime [https://github.com/shinux/PyTime] - An easy-to-use Python module which aims to operate date/time/datetime by string.
- pytz [https://launchpad.net/pytz] - World timezone definitions, modern and historical. Brings the tz database [https://en.wikipedia.org/wiki/Tz_database] into Python.
- when.py [https://github.com/dirn/When.py] - Providing user-friendly functions to help perform common date and time actions.

Debugging Tools

Libraries for debugging code.

- pdb-like Debugger
  - ipdb [https://github.com/gotcha/ipdb] - IPython-enabled pdb [https://docs.python.org/3/library/pdb.html].
  - pdb++ [https://github.com/antocuni/pdb] - Another drop-in replacement for pdb.
  - pudb [https://github.com/inducer/pudb] - A full-screen, console-based Python debugger.
  - wdb [https://github.com/Kozea/wdb] - An improbable web debugger through WebSockets.
- Tracing
  - lptrace [https://github.com/khamidou/lptrace] - strace [http://man7.org/linux/man-pages/man1/strace.1.html] for Python programs.
  - manhole [https://github.com/ionelmc/python-manhole] - Debugging UNIX socket connections and present the stacktraces for all threads and an interactive prompt.
  - pyringe [https://github.com/google/pyringe] - Debugger capable of

attaching to and injecting code into Python processes.

  - python-hunter [https://github.com/ionelmc/python-hunter] - A flexible code tracing toolkit.

- Profiler
  - line_profiler [https://github.com/rkern/line_profiler] - Line-by-line profiling.
  - memory_profiler [https://github.com/fabianp/memory_profiler] - Monitor Memory usage of Python code.
  - py-spy [https://github.com/benfred/py-spy] - A sampling profiler for Python programs. Written in Rust.
  - pyflame [https://github.com/uber/pyflame] - A ptracing profiler For Python.
  - vprof [https://github.com/nvdv/vprof] - Visual Python profiler.
- Others
  - django-debug-toolbar [https://github.com/jazzband/django-debug-toolbar] - Display various debug information for Django.
  - django-devserver [https://github.com/dcramer/django-devserver] - A drop-in replacement for Django's runserver.
  - flask-debugtoolbar [https://github.com/mgood/flask-debugtoolbar] - A port of the django-debug-toolbar to flask.
  - icecream [https://github.com/gruns/icecream] - Inspect variables, expressions, and program execution with a single, simple function call.
  - pyelftools [https://github.com/eliben/pyelftools] - Parsing and analyzing ELF files and DWARF debugging information.

Deep Learning

Frameworks for Neural Networks and Deep Learning. Also see awesome-deep-learning [https://github.com/ChristosChristofidis/awesome-deep-learning].

- caffe [https://github.com/BVLC/caffe] - A fast open framework for deep learning..
- keras [https://github.com/keras-team/keras] - A high-level neural networks library and capable of running on top of either TensorFlow or Theano.
- mxnet [https://github.com/dmlc/mxnet] - A deep learning framework designed for both efficiency and flexibility.
- pytorch [https://github.com/pytorch/pytorch] - Tensors and Dynamic neural networks in Python with strong GPU acceleration.
- SerpentAI [https://github.com/SerpentAI/SerpentAI] - Game agent framework. Use any video game as a deep learning sandbox.
- tensorflow [https://github.com/tensorflow/tensorflow] - The most popular Deep Learning framework created by Google.
- Theano [https://github.com/Theano/Theano] - A library for fast numerical computation.

DevOps Tools

Software and libraries for DevOps.

- Configuration Management
  - ansible [https://github.com/ansible/ansible] - A radically simple IT automation platform.
  - cloudinit [https://cloudinit.readthedocs.io/en/latest/] - A multi-distribution package that handles early initialization of a cloud instance.
  - OpenStack [https://www.openstack.org/] - Open source software for building private and public clouds.
  - pyinfra [https://github.com/Fizzadar/pyinfra] - A versatile CLI tools and python libraries to automate infrastructure.

    - saltstack [https://github.com/saltstack/salt] - Infrastructure automation and management system.
- SSH-style Deployment
    - cuisine [https://github.com/sebastien/cuisine] - Chef-like functionality for Fabric.
    - fabric [https://github.com/fabric/fabric] - A simple, Pythonic tool for remote execution and deployment.
    - fabtools [https://github.com/fabtools/fabtools] - Tools for writing awesome Fabric files.
- Process Management
    - honcho [https://github.com/nickstenning/honcho] - A Python clone of Foreman [https://github.com/ddollar/foreman], for managing Procfile-based applications.
    - supervisor [https://github.com/Supervisor/supervisor] - Supervisor process control system for UNIX.
- Monitoring
    - psutil [https://github.com/giampaolo/psutil] - A cross-platform process and system utilities module.
- Backup
    - BorgBackup [https://www.borgbackup.org/] - A deduplicating archiver with compression and encryption.
- Others
    - docker-compose [https://docs.docker.com/compose/] - Fast, isolated development environments using Docker [https://www.docker.com/].

Distributed Computing

Frameworks and libraries for Distributed Computing.

- Batch Processing
  - dask [https://github.com/dask/dask] - A flexible parallel computing library for analytic computing.
  - luigi [https://github.com/spotify/luigi] - A module that helps you build complex pipelines of batch jobs.
  - mrjob [https://github.com/Yelp/mrjob] - Run MapReduce jobs on Hadoop or Amazon Web Services.
  - PySpark [https://pypi.org/project/pyspark/] - Apache Spark [https://spark.apache.org/] Python API.
  - Ray [https://github.com/ray-project/ray/] - A system for parallel and distributed Python that unifies the machine learning ecosystem.
- Stream Processing
  - faust [https://github.com/robinhood/faust] - A stream processing library, porting the ideas from Kafka Streams [https://kafka.apache.org/documentation/streams/] to Python.
  - streamparse [https://github.com/Parsely/streamparse] - Run Python code against real-time streams of data via Apache Storm [https://storm.apache.org/].

Distribution

Libraries to create packaged executables for release distribution.

- dh-virtualenv [https://github.com/spotify/dh-virtualenv] - Build and distribute a virtualenv as a Debian package.
- Nuitka [https://nuitka.net/] - Compile scripts, modules, packages to an executable or extension module.

- py2app [https://pythonhosted.org/py2app/] - Freezes Python scripts (Mac OS X).
- py2exe [http://www.py2exe.org/] - Freezes Python scripts (Windows).
- pyarmor [https://github.com/dashingsoft/pyarmor] - A tool used to obfuscate python scripts, bind obfuscated scripts to fixed machine or expire obfuscated scripts.
- PyInstaller [https://github.com/pyinstaller/pyinstaller] - Converts Python programs into stand-alone executables (cross-platform).
- pynsist [https://pynsist.readthedocs.io/en/latest/] - A tool to build Windows installers, installers bundle Python itself.
- shiv [https://github.com/linkedin/shiv] - A command line utility for building fully self-contained zipapps (PEP 441), but with all their dependencies included.

Documentation

Libraries for generating project documentation.

- sphinx [https://github.com/sphinx-doc/sphinx/] - Python Documentation generator.
  - awesome-sphinxdoc [https://github.com/yoloseem/awesome-sphinxdoc]
- pdoc [https://github.com/mitmproxy/pdoc] - Epydoc replacement to auto generate API documentation for Python libraries.
- pycco [https://github.com/pycco-docs/pycco] - The literate-programming-style documentation generator.

Downloader

Libraries for downloading.

- akshare [https://github.com/jindaxiang/akshare] - A financial data interface library, built for human beings!
- s3cmd [https://github.com/s3tools/s3cmd] - A command line tool for managing Amazon S3 and CloudFront.
- s4cmd [https://github.com/bloomreach/s4cmd] - Super S3 command line tool, good for higher performance.
- you-get [https://you-get.org/] - A YouTube/Youku/Niconico video downloader written in Python 3.
- youtube-dl [https://rg3.github.io/youtube-dl/] - A small command-line program to download videos from YouTube.

E-commerce

Frameworks and libraries for e-commerce and payments.

- alipay [https://github.com/lxneng/alipay] - Unofficial Alipay API for Python.
- Cartridge [https://github.com/stephenmcd/cartridge] - A shopping cart app built using the Mezzanine.
- django-oscar [http://oscarcommerce.com/] - An open-source e-commerce framework for Django.
- django-shop [https://github.com/awesto/django-shop] - A Django based shop system.
- forex-python [https://github.com/MicroPyramid/forex-python] - Foreign exchange rates, Bitcoin price index and currency conversion.
- merchant [https://github.com/agiliq/merchant] - A Django app to accept payments from various payment processors.
- money [https://github.com/carlospalol/money] - `Money` class with optional CLDR-backed locale-aware formatting and an extensible currency exchange.

- python-currencies [https://github.com/Alir3z4/python-currencies] - Display money format and its filthy currencies.
- saleor [http://getsaleor.com/] - An e-commerce storefront for Django.
- shoop [https://www.shuup.com/en/] - An open source E-Commerce platform based on Django.

Editor Plugins and IDEs

- Emacs
  - elpy [https://github.com/jorgenschaefer/elpy] - Emacs Python Development Environment.
- Sublime Text
  - anaconda [https://github.com/DamnWidget/anaconda] - Anaconda turns your Sublime Text 3 in a full featured Python development IDE.
  - SublimeJEDI [https://github.com/srusskih/SublimeJEDI] - A Sublime Text plugin to the awesome auto-complete library Jedi.
- Vim
  - jedi-vim [https://github.com/davidhalter/jedi-vim] - Vim bindings for the Jedi auto-completion library for Python.
  - python-mode [https://github.com/python-mode/python-mode] - An all in one plugin for turning Vim into a Python IDE.
  - YouCompleteMe [https://github.com/Valloric/YouCompleteMe] - Includes Jedi [https://github.com/davidhalter/jedi]-based completion engine for Python.
- Visual Studio
  - PTVS [https://github.com/Microsoft/PTVS] - Python Tools for Visual Studio.

- Visual Studio Code
  - Python [https://marketplace.visualstudio.com/items?itemName=ms-python.python] - The official VSCode extension with rich support for Python.
- IDE
  - PyCharm [https://www.jetbrains.com/pycharm/] - Commercial Python IDE by JetBrains. Has free community edition available.
  - spyder [https://github.com/spyder-ide/spyder] - Open Source Python IDE.

Email

Libraries for sending and parsing email.

- Mail Servers
  - modoboa [https://github.com/modoboa/modoboa] - A mail hosting and management platform including a modern Web UI.
  - salmon [https://github.com/moggers87/salmon] - A Python Mail Server.
- Clients
  - imbox [https://github.com/martinrusev/imbox] - Python IMAP for Humans.
  - yagmail [https://github.com/kootenpv/yagmail] - Yet another Gmail/SMTP client.
- Others
  - flanker [https://github.com/mailgun/flanker] - An email address and Mime parsing library.
  - mailer [https://github.com/marrow/mailer] - High-performance extensible mail delivery framework.

Enterprise Application Integrations

Platforms and tools for systems integrations in enterprise environments

- Zato [https://zato.io] - ESB, SOA, REST, APIs and Cloud Integrations in Python.

Environment Management

Libraries for Python version and virtual environment management.

- pyenv [https://github.com/pyenv/pyenv] - Simple Python version management.
- virtualenv [https://github.com/pypa/virtualenv] - A tool to create isolated Python environments.

Files

Libraries for file manipulation and MIME type detection.

- mimetypes [https://docs.python.org/3/library/mimetypes.html] - (Python standard library) Map filenames to MIME types.
- path.py [https://github.com/jaraco/path.py] - A module wrapper for os.path [https://docs.python.org/3/library/os.path.html].
- pathlib [https://docs.python.org/3/library/pathlib.html] - (Python standard library) An cross-platform, object-oriented path library.
- PyFilesystem2 [https://github.com/pyfilesystem/pyfilesystem2] - Python's filesystem abstraction layer.
- python-magic [https://github.com/ahupp/python-magic] - A Python interface to the libmagic file type identification library.
- Unipath [https://github.com/mikeorr/Unipath] - An object-oriented approach to file/directory operations.

- watchdog [https://github.com/gorakhargosh/watchdog] - API and shell utilities to monitor file system events.

Foreign Function Interface

Libraries for providing foreign function interface.

- cffi [https://pypi.org/project/cffi/] - Foreign Function Interface for Python calling C code.
- ctypes [https://docs.python.org/3/library/ctypes.html] - (Python standard library) Foreign Function Interface for Python calling C code.
- PyCUDA [https://mathema.tician.de/software/pycuda/] - A Python wrapper for Nvidia's CUDA API.
- SWIG [http://www.swig.org/Doc1.3/Python.html] - Simplified Wrapper and Interface Generator.

Forms

Libraries for working with forms.

- Deform [https://github.com/Pylons/deform] - Python HTML form generation library influenced by the formish form generation library.
- django-bootstrap3 [https://github.com/dyve/django-bootstrap3] - Bootstrap 3 integration with Django.
- django-bootstrap4 [https://github.com/zostera/django-bootstrap4] - Bootstrap 4 integration with Django.
- django-crispy-forms [https://github.com/django-crispy-forms/django-crispy-forms] - A Django app which lets you create beautiful forms in a very elegant and DRY way.

- django-remote-forms [https://github.com/WiserTogether/django-remote-forms] - A platform independent Django form serializer.
- WTForms [https://github.com/wtforms/wtforms] - A flexible forms validation and rendering library.

Functional Programming

Functional Programming with Python.

- Coconut [https://github.com/evhub/coconut] - A variant of Python built for simple, elegant, Pythonic functional programming.
- CyToolz [https://github.com/pytoolz/cytoolz/] - Cython implementation of `Toolz` : High performance functional utilities.
- fn.py [https://github.com/kachayev/fn.py] - Functional programming in Python: implementation of missing features to enjoy FP.
- funcy [https://github.com/Suor/funcy] - A fancy and practical functional tools.
- more-itertools [https://github.com/erikrose/more-itertools] - More routines for operating on iterables, beyond `itertools` .
- returns [https://github.com/dry-python/returns] - A set of type-safe monads, transformers, and composition utilities.
- Toolz [https://github.com/pytoolz/toolz] - A collection of functional utilities for iterators, functions, and dictionaries.

GUI Development

Libraries for working with graphical user interface applications.

- curses [https://docs.python.org/3/library/curses.html] - Built-in wrapper for ncurses [https://www.gnu.org/software/ncurses/] used to create terminal GUI

applications.

- DearPyGui [https://github.com/RaylockLLC/DearPyGui/] - A Simple GPU accelerated Python GUI framework
- Eel [https://github.com/ChrisKnott/Eel] - A library for making simple Electron-like offline HTML/JS GUI apps.
- enaml [https://github.com/nucleic/enaml] - Creating beautiful user-interfaces with Declarative Syntax like QML.
- Flexx [https://github.com/zoofIO/flexx] - Flexx is a pure Python toolkit for creating GUI's, that uses web technology for its rendering.
- Gooey [https://github.com/chriskiehl/Gooey] - Turn command line programs into a full GUI application with one line.
- kivy [https://kivy.org/] - A library for creating NUI applications, running on Windows, Linux, Mac OS X, Android and iOS.
- pyglet [https://github.com/pyglet/pyglet] - A cross-platform windowing and multimedia library for Python.
- PyGObject [https://wiki.gnome.org/Projects/PyGObject] - Python Bindings for GLib/GObject/GIO/GTK+ (GTK+3).
- PyQt [https://riverbankcomputing.com/software/pyqt/intro] - Python bindings for the Qt [https://www.qt.io/] cross-platform application and UI framework.
- PySimpleGUI [https://github.com/PySimpleGUI/PySimpleGUI] - Wrapper for tkinter, Qt, WxPython and Remi.
- pywebview [https://github.com/r0x0r/pywebview/] - A lightweight cross-platform native wrapper around a webview component.
- Tkinter [https://wiki.python.org/moin/TkInter] - Tkinter is Python's de-facto standard GUI package.
- Toga [https://github.com/pybee/toga] - A Python native, OS native GUI toolkit.
- urwid [http://urwid.org/] - A library for creating terminal GUI applications with

strong support for widgets, events, rich colors, etc.

- wxPython [https://wxpython.org/] - A blending of the wxWidgets C++ class library with the Python.

GraphQL

Libraries for working with GraphQL.

- graphene [https://github.com/graphql-python/graphene/] - GraphQL framework for Python.
- tartiflette-aiohttp [https://github.com/tartiflette/tartiflette-aiohttp/] - An `aiohttp` -based wrapper for Tartiflette to expose GraphQL APIs over HTTP.
- tartiflette-asgi [https://github.com/tartiflette/tartiflette-asgi/] - ASGI support for the Tartiflette GraphQL engine.
- tartiflette [https://tartiflette.io] - SDL-first GraphQL engine implementation for Python 3.6+ and asyncio.

Game Development

Awesome game development libraries.

- Arcade [https://arcade.academy/index.html] - Arcade is a modern Python framework for crafting games with compelling graphics and sound.
- Cocos2d [http://cocos2d.org/] - cocos2d is a framework for building 2D games, demos, and other graphical/interactive applications.
- Harfang3D [http://www.harfang3d.com] - Python framework for 3D, VR and game development.
- Panda3D [https://www.panda3d.org/] - 3D game engine developed by Disney.
- Pygame [http://www.pygame.org/news.html] - Pygame is a set of Python

modules designed for writing games.

- PyOgre [http://www.ogre3d.org/tikiwiki/PyOgre] - Python bindings for the Ogre 3D render engine, can be used for games, simulations, anything 3D.
- PyOpenGL [http://pyopengl.sourceforge.net/] - Python ctypes bindings for OpenGL and it's related APIs.
- PySDL2 [https://pysdl2.readthedocs.io] - A ctypes based wrapper for the SDL2 library.
- RenPy [https://www.renpy.org/] - A Visual Novel engine.

Geolocation

Libraries for geocoding addresses and working with latitudes and longitudes.

- django-countries [https://github.com/SmileyChris/django-countries] - A Django app that provides a country field for models and forms.
- GeoDjango [https://docs.djangoproject.com/en/dev/ref/contrib/gis/] - A world-class geographic web framework.
- GeoIP [https://github.com/maxmind/geoip-api-python] - Python API for MaxMind GeoIP Legacy Database.
- geojson [https://github.com/frewsxcv/python-geojson] - Python bindings and utilities for GeoJSON.
- geopy [https://github.com/geopy/geopy] - Python Geocoding Toolbox.

HTML Manipulation

Libraries for working with HTML and XML.

- BeautifulSoup [https://www.crummy.com/software/BeautifulSoup/bs4/doc/] - Providing Pythonic idioms for iterating, searching, and modifying HTML or XML.

- bleach [https://github.com/mozilla/bleach] - A whitelist-based HTML sanitization and text linkification library.
- cssutils [https://pypi.org/project/cssutils/] - A CSS library for Python.
- html5lib [https://github.com/html5lib/html5lib-python] - A standards-compliant library for parsing and serializing HTML documents and fragments.
- lxml [http://lxml.de/] - A very fast, easy-to-use and versatile library for handling HTML and XML.
- MarkupSafe [https://github.com/pallets/markupsafe] - Implements a XML/HTML/XHTML Markup safe string for Python.
- pyquery [https://github.com/gawel/pyquery] - A jQuery-like library for parsing HTML.
- untangle [https://github.com/stchris/untangle] - Converts XML documents to Python objects for easy access.
- WeasyPrint [http://weasyprint.org] - A visual rendering engine for HTML and CSS that can export to PDF.
- xmldataset [https://xmldataset.readthedocs.io/en/latest/] - Simple XML Parsing.
- xmltodict [https://github.com/martinblech/xmltodict] - Working with XML feel like you are working with JSON.

HTTP Clients

Libraries for working with HTTP.

- grequests [https://github.com/spyoungtech/grequests] - requests + gevent for asynchronous HTTP requests.
- httplib2 [https://github.com/httplib2/httplib2] - Comprehensive HTTP client library.

- httpx [https://github.com/encode/httpx] - A next generation HTTP client for Python.
- requests [https://github.com/psf/requests] - HTTP Requests for Humans.
- treq [https://github.com/twisted/treq] - Python requests like API built on top of Twisted's HTTP client.
- urllib3 [https://github.com/shazow/urllib3] - A HTTP library with thread-safe connection pooling, file post support, sanity friendly.

Hardware

Libraries for programming with hardware.

- ino [http://inotool.org/] - Command line toolkit for working with Arduino [https://www.arduino.cc/].
- keyboard [https://github.com/boppreh/keyboard] - Hook and simulate global keyboard events on Windows and Linux.
- mouse [https://github.com/boppreh/mouse] - Hook and simulate global mouse events on Windows and Linux.
- Pingo [http://www.pingo.io/] - Pingo provides a uniform API to program devices like the Raspberry Pi, pcDuino, Intel Galileo, etc.
- PyUserInput [https://github.com/SavinaRoja/PyUserInput] - A module for cross-platform control of the mouse and keyboard.
- scapy [https://github.com/secdev/scapy] - A brilliant packet manipulation library.
- wifi [https://github.com/rockymeza/wifi] - A Python library and command line tool for working with WiFi on Linux.

Image Processing

Libraries for manipulating images.

- hmap [https://github.com/rossgoodwin/hmap] - Image histogram remapping.
- imgSeek [https://sourceforge.net/projects/imgseek/] - A project for searching a collection of images using visual similarity.
- nude.py [https://github.com/hhatto/nude.py] - Nudity detection.
- pagan [https://github.com/daboth/pagan] - Retro identicon (Avatar) generation based on input string and hash.
- pillow [https://github.com/python-pillow/Pillow] - Pillow is the friendly PIL [http://www.pythonware.com/products/pil/] fork.
- pygram [https://github.com/ajkumar25/pygram] - Instagram-like image filters.
- PyMatting [https://github.com/pymatting/pymatting] - A library for alpha matting.
- python-barcode [https://github.com/WhyNotHugo/python-barcode] - Create barcodes in Python with no extra dependencies.
- python-qrcode [https://github.com/lincolnloop/python-qrcode] - A pure Python QR Code generator.
- pyvips [https://github.com/libvips/pyvips] - A fast image processing library with low memory needs.
- pywal [https://github.com/dylanaraps/pywal] - A tool that generates color schemes from images.
- Quads [https://github.com/fogleman/Quads] - Computer art based on quadtrees.
- scikit-image [http://scikit-image.org/] - A Python library for (scientific) image processing.
- thumbor [https://github.com/thumbor/thumbor] - A smart imaging service. It enables on-demand crop, re-sizing and flipping of images.

- wand [https://github.com/dahlia/wand] - Python bindings for MagickWand [https://www.imagemagick.org/script/magick-wand.php], C API for ImageMagick.

Implementations

Implementations of Python.

- CLPython [https://github.com/metawilm/cl-python] - Implementation of the Python programming language written in Common Lisp.
- CPython [https://github.com/python/cpython] - **Default, most widely used implementation of the Python programming language written in C.**
- Cython [http://cython.org/] - Optimizing Static Compiler for Python.
- Grumpy [https://github.com/google/grumpy] - More compiler than interpreter as more powerful CPython2.7 replacement (alpha).
- IronPython [https://github.com/IronLanguages/ironpython3] - Implementation of the Python programming language written in C#.
- Jython [https://hg.python.org/jython] - Implementation of Python programming language written in Java for the JVM.
- MicroPython [https://github.com/micropython/micropython] - A lean and efficient Python programming language implementation.
- Numba [https://numba.pydata.org/] - Python JIT compiler to LLVM aimed at scientific Python.
- PeachPy [https://github.com/Maratyszcza/PeachPy] - x86-64 assembler embedded in Python.
- Pyjion [https://github.com/Microsoft/Pyjion] - A JIT for Python based upon CoreCLR.
- PyPy [https://foss.heptapod.net/pypy/pypy] - A very fast and compliant

implementation of the Python language.

- Pyston [https://github.com/dropbox/pyston] - A Python implementation using JIT techniques.
- Stackless Python [https://github.com/stackless-dev/stackless] - An enhanced version of the Python programming language.

Interactive Interpreter

Interactive Python interpreters (REPL).

- bpython [https://github.com/bpython/bpython] - A fancy interface to the Python interpreter.
- Jupyter Notebook (IPython) [https://jupyter.org] - A rich toolkit to help you make the most out of using Python interactively.
  - awesome-jupyter [https://github.com/markusschanta/awesome-jupyter]
- ptpython [https://github.com/jonathanslenders/ptpython] - Advanced Python REPL built on top of the python-prompt-toolkit [https://github.com/jonathanslenders/python-prompt-toolkit].

Internationalization

Libraries for working with i18n.

- Babel [http://babel.pocoo.org/en/latest/] - An internationalization library for Python.
- PyICU [https://github.com/ovalhub/pyicu] - A wrapper of International Components for Unicode C++ library (ICU [http://site.icu-project.org/]).

Job Scheduler

Libraries for scheduling jobs.

- Airflow [https://airflow.apache.org/] - Airflow is a platform to programmatically author, schedule and monitor workflows.
- APScheduler [https://apscheduler.readthedocs.io/en/latest/] - A light but powerful in-process task scheduler that lets you schedule functions.
- django-schedule [https://github.com/thauber/django-schedule] - A calendaring app for Django.
- doit [http://pydoit.org/] - A task runner and build tool.
- gunnery [https://github.com/gunnery/gunnery] - Multipurpose task execution tool for distributed systems with web-based interface.
- Joblib [https://joblib.readthedocs.io/] - A set of tools to provide lightweight pipelining in Python.
- Plan [https://github.com/fengsp/plan] - Writing crontab file in Python like a charm.
- Prefect [https://github.com/PrefectHQ/prefect] - A modern workflow orchestration framework that makes it easy to build, schedule and monitor robust data pipelines.
- schedule [https://github.com/dbader/schedule] - Python job scheduling for humans.
- Spiff [https://github.com/knipknap/SpiffWorkflow] - A powerful workflow engine implemented in pure Python.
- TaskFlow [https://docs.openstack.org/developer/taskflow/] - A Python library that helps to make task execution easy, consistent and reliable.

Logging

Libraries for generating and working with logs.

- logbook [https://logbook.readthedocs.io/en/stable/] - Logging replacement for Python.
- logging [https://docs.python.org/3/library/logging.html] - (Python standard library) Logging facility for Python.
- loguru [https://github.com/Delgan/loguru] - Library which aims to bring enjoyable logging in Python.
- sentry-python [https://github.com/getsentry/sentry-python] - Sentry SDK for Python.
- structlog [https://www.structlog.org/en/stable/] - Structured logging made easy.

Machine Learning

Libraries for Machine Learning. Also see awesome-machine-learning [https://github.com/josephmisiti/awesome-machine-learning#python].

- gym [https://github.com/openai/gym] - A toolkit for developing and comparing reinforcement learning algorithms.
- H2O [https://github.com/h2oai/h2o-3] - Open Source Fast Scalable Machine Learning Platform.
- Metrics [https://github.com/benhamner/Metrics] - Machine learning evaluation metrics.
- MindsDB [https://github.com/mindsdb/mindsdb] - MindsDB is an open source AI layer for existing databases that allows you to effortlessly develop, train and deploy state-of-the-art machine learning models using standard queries.
- NuPIC [https://github.com/numenta/nupic] - Numenta Platform for Intelligent Computing.

- scikit-learn [http://scikit-learn.org/] - The most popular Python library for Machine Learning.
- Spark ML [https://spark.apache.org/docs/latest/ml-guide.html] - Apache Spark [https://spark.apache.org/]'s scalable Machine Learning library.
- vowpal_porpoise [https://github.com/josephreisinger/vowpal_porpoise] - A lightweight Python wrapper for Vowpal Wabbit [https://github.com/JohnLangford/vowpal_wabbit/].
- xgboost [https://github.com/dmlc/xgboost] - A scalable, portable, and distributed gradient boosting library.

Microsoft Windows

Python programming on Microsoft Windows.

- Python(x,y) [https://python-xy.github.io/] - Scientific-applications-oriented Python Distribution based on Qt and Spyder.
- pythonlibs [http://www.lfd.uci.edu/~gohlke/pythonlibs/] - Unofficial Windows binaries for Python extension packages.
- PythonNet [https://github.com/pythonnet/pythonnet] - Python Integration with the .NET Common Language Runtime (CLR).
- PyWin32 [https://github.com/mhammond/pywin32] - Python Extensions for Windows.
- WinPython [https://winpython.github.io/] - Portable development environment for Windows 7/8.

Miscellaneous

Useful libraries or tools that don't fit in the categories above.

- blinker [https://github.com/jek/blinker] - A fast Python in-process signal/event dispatching system.
- boltons [https://github.com/mahmoud/boltons] - A set of pure-Python utilities.
- itsdangerous [https://github.com/pallets/itsdangerous] - Various helpers to pass trusted data to untrusted environments.
- magenta [https://github.com/magenta/magenta] - A tool to generate music and art using artificial intelligence.
- pluginbase [https://github.com/mitsuhiko/pluginbase] - A simple but flexible plugin system for Python.
- tryton [https://www.tryton.org/] - A general purpose business framework.

Natural Language Processing

Libraries for working with human languages.

- General
  - gensim [https://github.com/RaRe-Technologies/gensim] - Topic Modeling for Humans.
  - langid.py [https://github.com/saffsd/langid.py] - Stand-alone language identification system.
  - nltk [http://www.nltk.org/] - A leading platform for building Python programs to work with human language data.
  - pattern [https://github.com/clips/pattern] - A web mining module.
  - polyglot [https://github.com/aboSamoor/polyglot] - Natural language pipeline supporting hundreds of languages.
  - pytext [https://github.com/facebookresearch/pytext] - A natural language modeling framework based on PyTorch.
  - PyTorch-NLP [https://github.com/PetrochukM/PyTorch-NLP] - A toolkit

enabling rapid deep learning NLP prototyping for research.

- spacy [https://spacy.io/] - A library for industrial-strength natural language processing in Python and Cython.
- Stanza [https://github.com/stanfordnlp/stanza] - The Stanford NLP Group's official Python library, supporting 60+ languages.

- Chinese
  - funNLP [https://github.com/fighting41love/funNLP] - A collection of tools and datasets for Chinese NLP.
  - jieba [https://github.com/fxsjy/jieba] - The most popular Chinese text segmentation library.
  - pkuseg-python [https://github.com/lancopku/pkuseg-python] - A toolkit for Chinese word segmentation in various domains.
  - snownlp [https://github.com/isnowfy/snownlp] - A library for processing Chinese text.

Network Virtualization

Tools and libraries for Virtual Networking and SDN (Software Defined Networking).

- mininet [https://github.com/mininet/mininet] - A popular network emulator and API written in Python.
- napalm [https://github.com/napalm-automation/napalm] - Cross-vendor API to manipulate network devices.
- pox [https://github.com/noxrepo/pox] - A Python-based SDN control applications, such as OpenFlow SDN controllers.

News Feed

Libraries for building user's activities.

- django-activity-stream [https://github.com/justquick/django-activity-stream] - Generating generic activity streams from the actions on your site.
- Stream Framework [https://github.com/tschellenbach/Stream-Framework] - Building news feed and notification systems using Cassandra and Redis.

ORM

Libraries that implement Object-Relational Mapping or data mapping techniques.

- Relational Databases
  - Django Models [https://docs.djangoproject.com/en/dev/topics/db/models/] - The Django ORM.
  - SQLAlchemy [https://www.sqlalchemy.org/] - The Python SQL Toolkit and Object Relational Mapper.
    - awesome-sqlalchemy [https://github.com/dahlia/awesome-sqlalchemy]
  - dataset [https://github.com/pudo/dataset] - Store Python dicts in a database - works with SQLite, MySQL, and PostgreSQL.
  - orator [https://github.com/sdispater/orator] - The Orator ORM provides a simple yet beautiful ActiveRecord implementation.
  - orm [https://github.com/encode/orm] - An async ORM.
  - peewee [https://github.com/coleifer/peewee] - A small, expressive ORM.
  - pony [https://github.com/ponyorm/pony/] - ORM that provides a generator-oriented interface to SQL.
  - pydal [https://github.com/web2py/pydal/] - A pure Python Database Abstraction Layer.

- NoSQL Databases
  - hot-redis [https://github.com/stephenmcd/hot-redis] - Rich Python data types for Redis.
  - mongoengine [https://github.com/MongoEngine/mongoengine] - A Python Object-Document-Mapper for working with MongoDB.
  - PynamoDB [https://github.com/pynamodb/PynamoDB] - A Pythonic interface for Amazon DynamoDB [https://aws.amazon.com/dynamodb/].
  - redisco [https://github.com/kiddouk/redisco] - A Python Library for Simple Models and Containers Persisted in Redis.

Package Management

Libraries for package and dependency management.

- pip [https://pip.pypa.io/en/stable/] - The package installer for Python.
  - pip-tools [https://github.com/jazzband/pip-tools] - A set of tools to keep your pinned Python dependencies fresh.
  - PyPI [https://pypi.org/]
- conda [https://github.com/conda/conda/] - Cross-platform, Python-agnostic binary package manager.
- poetry [https://github.com/sdispater/poetry] - Python dependency management and packaging made easy.

Package Repositories

Local PyPI repository server and proxies.

- bandersnatch [https://github.com/pypa/bandersnatch/] - PyPI mirroring tool provided by Python Packaging Authority (PyPA).

- devpi [https://github.com/devpi/devpi] - PyPI server and packaging/testing /release tool.
- localshop [https://github.com/jazzband/localshop] - Local PyPI server (custom packages and auto-mirroring of pypi).
- warehouse [https://github.com/pypa/warehouse] - Next generation Python Package Repository (PyPI).

Penetration Testing

Frameworks and tools for penetration testing.

- fsociety [https://github.com/Manisso/fsociety] - A Penetration testing framework.
- setoolkit [https://github.com/trustedsec/social-engineer-toolkit] - A toolkit for social engineering.
- sqlmap [https://github.com/sqlmapproject/sqlmap] - Automatic SQL injection and database takeover tool.

Permissions

Libraries that allow or deny users access to data or functionality.

- django-guardian [https://github.com/django-guardian/django-guardian] - Implementation of per object permissions for Django 1.2+
- django-rules [https://github.com/dfunckt/django-rules] - A tiny but powerful app providing object-level permissions to Django, without requiring a database.

Processes

Libraries for starting and communicating with OS processes.

- delegator.py [https://github.com/amitt001/delegator.py] - Subprocesses [https://docs.python.org/3/library/subprocess.html] for Humans 2.0.
- sarge [https://sarge.readthedocs.io/en/latest/] - Yet another wrapper for subprocess.
- sh [https://github.com/amoffat/sh] - A full-fledged subprocess replacement for Python.

Recommender Systems

Libraries for building recommender systems.

- annoy [https://github.com/spotify/annoy] - Approximate Nearest Neighbors in C++/Python optimized for memory usage.
- fastFM [https://github.com/ibayer/fastFM] - A library for Factorization Machines.
- implicit [https://github.com/benfred/implicit] - A fast Python implementation of collaborative filtering for implicit datasets.
- libffm [https://github.com/guestwalk/libffm] - A library for Field-aware Factorization Machine (FFM).
- lightfm [https://github.com/lyst/lightfm] - A Python implementation of a number of popular recommendation algorithms.
- spotlight [https://github.com/maciejkula/spotlight] - Deep recommender models using PyTorch.
- Surprise [https://github.com/NicolasHug/Surprise] - A scikit for building and analyzing recommender systems.
- tensorrec [https://github.com/jfkirk/tensorrec] - A Recommendation Engine Framework in TensorFlow.

Refactoring

Refactoring tools and libraries for Python

- Bicycle Repair Man [http://bicyclerepair.sourceforge.net/] - Bicycle Repair Man, a refactoring tool for Python.
- Bowler [https://pybowler.io/] - Safe code refactoring for modern Python.
- Rope [https://github.com/python-rope/rope] - Rope is a python refactoring library.

RESTful API

Libraries for building RESTful APIs.

- Django
  - django-rest-framework [http://www.django-rest-framework.org/] - A powerful and flexible toolkit to build web APIs.
  - django-tastypie [http://tastypieapi.org/] - Creating delicious APIs for Django apps.
- Flask
  - eve [https://github.com/pyeve/eve] - REST API framework powered by Flask, MongoDB and good intentions.
  - flask-api [https://github.com/flask-api/flask-api] - Browsable Web APIs for Flask.
  - flask-restful [https://github.com/flask-restful/flask-restful] - Quickly building REST APIs for Flask.
- Pyramid
  - cornice [https://github.com/Cornices/cornice] - A RESTful framework for

Pyramid.

- Framework agnostic
  - apistar [https://github.com/encode/apistar] - A smart Web API framework, designed for Python 3.
  - falcon [https://github.com/falconry/falcon] - A high-performance framework for building cloud APIs and web app backends.
  - fastapi [https://github.com/tiangolo/fastapi] - A modern, fast, web framework for building APIs with Python 3.6+ based on standard Python type hints.
  - hug [https://github.com/hugapi/hug] - A Python 3 framework for cleanly exposing APIs.
  - sandman2 [https://github.com/jeffknupp/sandman2] - Automated REST APIs for existing database-driven systems.
  - sanic [https://github.com/huge-success/sanic] - A Python 3.6+ web server and web framework that's written to go fast.
  - vibora [https://vibora.io/] - Fast, efficient and asynchronous Web framework inspired by Flask.

Robotics

Libraries for robotics.

- PythonRobotics [https://github.com/AtsushiSakai/PythonRobotics] - This is a compilation of various robotics algorithms with visualizations.
- rospy [http://wiki.ros.org/rospy] - This is a library for ROS (Robot Operating System).

RPC Servers

RPC-compatible servers.

- RPyC [https://github.com/tomerfiliba/rpyc] (Remote Python Call) - A transparent and symmetric RPC library for Python
- zeroRPC [https://github.com/0rpc/zerorpc-python] - zerorpc is a flexible RPC implementation based on ZeroMQ [http://zeromq.org/] and MessagePack [http://msgpack.org/].

Science

Libraries for scientific computing. Also see Python-for-Scientists [https://github.com/TomNicholas/Python-for-Scientists].

- astropy [http://www.astropy.org/] - A community Python library for Astronomy.
- bcbio-nextgen [https://github.com/chapmanb/bcbio-nextgen] - Providing best-practice pipelines for fully automated high throughput sequencing analysis.
- bccb [https://github.com/chapmanb/bcbb] - Collection of useful code related to biological analysis.
- Biopython [http://biopython.org/wiki/Main_Page] - Biopython is a set of freely available tools for biological computation.
- cclib [https://cclib.github.io/] - A library for parsing and interpreting the results of computational chemistry packages.
- Colour [http://colour-science.org/] - Implementing a comprehensive number of colour theory transformations and algorithms.
- Karate Club [https://github.com/benedekrozemberczki/karateclub] - Unsupervised machine learning toolbox for graph structured data.
- NetworkX [https://networkx.github.io/] - A high-productivity software for complex networks.
- NIPY [http://nipy.org] - A collection of neuroimaging toolkits.

- NumPy [https://www.numpy.org/] - A fundamental package for scientific computing with Python.
- ObsPy [https://github.com/obspy/obspy/wiki/] - A Python toolbox for seismology.
- Open Babel [http://openbabel.org/wiki/Main_Page] - A chemical toolbox designed to speak the many languages of chemical data.
- PyDy [http://www.pydy.org/] - Short for Python Dynamics, used to assist with workflow in the modeling of dynamic motion.
- PyMC [https://github.com/pymc-devs/pymc3] - Markov Chain Monte Carlo sampling toolkit.
- QuTiP [http://qutip.org/] - Quantum Toolbox in Python.
- RDKit [http://www.rdkit.org/] - Cheminformatics and Machine Learning Software.
- SciPy [https://www.scipy.org/] - A Python-based ecosystem of open-source software for mathematics, science, and engineering.
- SimPy [https://gitlab.com/team-simpy/simpy] - A process-based discrete-event simulation framework.
- statsmodels [https://github.com/statsmodels/statsmodels] - Statistical modeling and econometrics in Python.
- SymPy [https://github.com/sympy/sympy] - A Python library for symbolic mathematics.
- Zipline [https://github.com/quantopian/zipline] - A Pythonic algorithmic trading library.

Search

Libraries and software for indexing and performing search queries on data.

- django-haystack [https://github.com/django-haystack/django-haystack] - Modular search for Django.
- elasticsearch-dsl-py [https://github.com/elastic/elasticsearch-dsl-py] - The official high-level Python client for Elasticsearch.
- elasticsearch-py [https://www.elastic.co/guide/en/elasticsearch/client/python-api/current/index.html] - The official low-level Python client for Elasticsearch [https://www.elastic.co/products/elasticsearch].
- pysolr [https://github.com/django-haystack/pysolr] - A lightweight Python wrapper for Apache Solr [https://lucene.apache.org/solr/].
- whoosh [https://whoosh.readthedocs.io/en/latest/] - A fast, pure Python search engine library.

Serialization

Libraries for serializing complex data types

- marshmallow [https://github.com/marshmallow-code/marshmallow] - A lightweight library for converting complex objects to and from simple Python datatypes.
- pysimdjson [https://github.com/TkTech/pysimdjson] - A Python bindings for simdjson [https://github.com/lemire/simdjson].
- python-rapidjson [https://github.com/python-rapidjson/python-rapidjson] - A Python wrapper around RapidJSON [https://github.com/Tencent/rapidjson].
- ultrajson [https://github.com/esnme/ultrajson] - A fast JSON decoder and encoder written in C with Python bindings.

Serverless Frameworks

Frameworks for developing serverless Python code.

- python-lambda [https://github.com/nficano/python-lambda] - A toolkit for developing and deploying Python code in AWS Lambda.
- Zappa [https://github.com/Miserlou/Zappa] - A tool for deploying WSGI applications on AWS Lambda and API Gateway.

Shell

Shells based on Python.

- xonsh [https://github.com/xonsh/xonsh/] - A Python-powered, cross-platform, Unix-gazing shell language and command prompt.

Specific Formats Processing

Libraries for parsing and manipulating specific text formats.

- General
  - tablib [https://github.com/jazzband/tablib] - A module for Tabular Datasets in XLS, CSV, JSON, YAML.
- Office
  - docxtpl [https://github.com/elapouya/python-docx-template] - Editing a docx document by jinja2 template
  - openpyxl [https://openpyxl.readthedocs.io/en/stable/] - A library for reading and writing Excel 2010 xlsx/xlsm/xltx/xltm files.
  - pyexcel [https://github.com/pyexcel/pyexcel] - Providing one API for reading, manipulating and writing csv, ods, xls, xlsx and xlsm files.
  - python-docx [https://github.com/python-openxml/python-docx] - Reads, queries and modifies Microsoft Word 2007/2008 docx files.
  - python-pptx [https://github.com/scanny/python-pptx] - Python library for

creating and updating PowerPoint (.pptx) files.

- unoconv [https://github.com/unoconv/unoconv] - Convert between any document format supported by LibreOffice/OpenOffice.
- XlsxWriter [https://github.com/jmcnamara/XlsxWriter] - A Python module for creating Excel .xlsx files.
- xlwings [https://github.com/ZoomerAnalytics/xlwings] - A BSD-licensed library that makes it easy to call Python from Excel and vice versa.
- xlwt [https://github.com/python-excel/xlwt] / xlrd [https://github.com/python-excel/xlrd] - Writing and reading data and formatting information from Excel files.

- PDF
  - PDFMiner [https://github.com/euske/pdfminer] - A tool for extracting information from PDF documents.
  - PyPDF2 [https://github.com/mstamy2/PyPDF2] - A library capable of splitting, merging and transforming PDF pages.
  - ReportLab [https://www.reportlab.com/opensource/] - Allowing Rapid creation of rich PDF documents.
- Markdown
  - Mistune [https://github.com/lepture/mistune] - Fastest and full featured pure Python parsers of Markdown.
  - Python-Markdown [https://github.com/waylan/Python-Markdown] - A Python implementation of John Gruber's Markdown.
- YAML
  - PyYAML [http://pyyaml.org/] - YAML implementations for Python.
- CSV
  - csvkit [https://github.com/wireservice/csvkit] - Utilities for converting to and working with CSV.

- Archive
  - unp [https://github.com/mitsuhiko/unp] - A command line tool that can unpack archives easily.

Static Site Generator

Static site generator is a software that takes some text + templates as input and produces HTML files on the output.

- lektor [https://github.com/lektor/lektor] - An easy to use static CMS and blog engine.
- makesite [https://github.com/sunainapai/makesite] - Simple, lightweight, and magic-free static site/blog generator (< 130 lines).
- mkdocs [https://github.com/mkdocs/mkdocs/] - Markdown friendly documentation generator.
- nikola [https://github.com/getnikola/nikola] - A static website and blog generator.
- pelican [https://github.com/getpelican/pelican] - Static site generator that supports Markdown and reST syntax.

Tagging

Libraries for tagging items.

- django-taggit [https://github.com/jazzband/django-taggit] - Simple tagging for Django.

Task Queues

Libraries for working with task queues.

- celery [https://docs.celeryproject.org/en/stable/] - An asynchronous task queue/job queue based on distributed message passing.
- dramatiq [https://github.com/Bogdanp/dramatiq] - A fast and reliable background task processing library for Python 3.
- huey [https://github.com/coleifer/huey] - Little multi-threaded task queue.
- mrq [https://github.com/pricingassistant/mrq] - A distributed worker task queue in Python using Redis & gevent.
- rq [https://github.com/rq/rq] - Simple job queues for Python.

Template Engine

Libraries and tools for templating and lexing.

- Genshi [https://genshi.edgewall.org/] - Python templating toolkit for generation of web-aware output.
- Jinja2 [https://github.com/pallets/jinja] - A modern and designer friendly templating language.
- Mako [http://www.makotemplates.org/] - Hyperfast and lightweight templating for the Python platform.

Testing

Libraries for testing codebases and generating test data.

- Testing Frameworks
  - hypothesis [https://github.com/HypothesisWorks/hypothesis] - Hypothesis is an advanced Quickcheck style property based testing library.

    - nose2 [https://github.com/nose-devs/nose2] - The successor to `nose`, based on `unittest2.
    - pytest [https://docs.pytest.org/en/latest/] - A mature full-featured Python testing tool.
    - Robot Framework [https://github.com/robotframework/robotframework] - A generic test automation framework.
    - unittest [https://docs.python.org/3/library/unittest.html] - (Python standard library) Unit testing framework.
- Test Runners
    - green [https://github.com/CleanCut/green] - A clean, colorful test runner.
    - mamba [https://nestorsalceda.github.io/mamba/] - The definitive testing tool for Python. Born under the banner of BDD.
    - tox [https://tox.readthedocs.io/en/latest/] - Auto builds and tests distributions in multiple Python versions
- GUI / Web Testing
    - locust [https://github.com/locustio/locust] - Scalable user load testing tool written in Python.
    - PyAutoGUI [https://github.com/asweigart/pyautogui] - PyAutoGUI is a cross-platform GUI automation Python module for human beings.
    - Schemathesis [https://github.com/kiwicom/schemathesis] - A tool for automatic property-based testing of web applications built with Open API / Swagger specifications.
    - Selenium [https://pypi.org/project/selenium/] - Python bindings for Selenium [http://www.seleniumhq.org/] WebDriver.
    - sixpack [https://github.com/seatgeek/sixpack] - A language-agnostic A/B Testing framework.
    - splinter [https://github.com/cobrateam/splinter] - Open source tool for

testing web applications.

- Mock
  - doublex [https://pypi.org/project/doublex/] - Powerful test doubles framework for Python.
  - freezegun [https://github.com/spulec/freezegun] - Travel through time by mocking the datetime module.
  - httmock [https://github.com/patrys/httmock] - A mocking library for requests for Python 2.6+ and 3.2+.
  - httpretty [https://github.com/gabrielfalcao/HTTPretty] - HTTP request mock tool for Python.
  - mock [https://docs.python.org/3/library/unittest.mock.html] - (Python standard library) A mocking and patching library.
  - mocket [https://github.com/mindflayer/python-mocket] - A socket mock framework with gevent/asyncio/SSL support.
  - responses [https://github.com/getsentry/responses] - A utility library for mocking out the requests Python library.
  - VCR.py [https://github.com/kevin1024/vcrpy] - Record and replay HTTP interactions on your tests.
- Object Factories
  - factory_boy [https://github.com/FactoryBoy/factory_boy] - A test fixtures replacement for Python.
  - mixer [https://github.com/klen/mixer] - Another fixtures replacement. Supports Django, Flask, SQLAlchemy, Peewee and etc.
  - model_mommy [https://github.com/vandersonmota/model_mommy] - Creating random fixtures for testing in Django.
- Code Coverage
  - coverage [https://pypi.org/project/coverage/] - Code coverage

measurement.

- Fake Data
  - fake2db [https://github.com/emirozer/fake2db] - Fake database generator.
  - faker [https://github.com/joke2k/faker] - A Python package that generates fake data.
  - mimesis [https://github.com/lk-geimfari/mimesis] - is a Python library that help you generate fake data.
  - radar [https://pypi.org/project/radar/] - Generate random datetime / time.

Text Processing

Libraries for parsing and manipulating plain texts.

- General
  - chardet [https://github.com/chardet/chardet] - Python 2/3 compatible character encoding detector.
  - difflib [https://docs.python.org/3/library/difflib.html] - (Python standard library) Helpers for computing deltas.
  - ftfy [https://github.com/LuminosoInsight/python-ftfy] - Makes Unicode text less broken and more consistent automagically.
  - fuzzywuzzy [https://github.com/seatgeek/fuzzywuzzy] - Fuzzy String Matching.
  - Levenshtein [https://github.com/ztane/python-Levenshtein/] - Fast computation of Levenshtein distance and string similarity.
  - pangu.py [https://github.com/vinta/pangu.py] - Paranoid text spacing.
  - pyfiglet [https://github.com/pwaller/pyfiglet] - An implementation of figlet written in Python.

    - pypinyin [https://github.com/mozillazg/python-pinyin] - Convert Chinese hanzi (漢字) to pinyin (拼音).
    - textdistance [https://github.com/orsinium/textdistance] - Compute distance between sequences with 30+ algorithms.
    - unidecode [https://pypi.org/project/Unidecode/] - ASCII transliterations of Unicode text.
- Slugify
    - awesome-slugify [https://github.com/dimka665/awesome-slugify] - A Python slugify library that can preserve unicode.
    - python-slugify [https://github.com/un33k/python-slugify] - A Python slugify library that translates unicode to ASCII.
    - unicode-slugify [https://github.com/mozilla/unicode-slugify] - A slugifier that generates unicode slugs with Django as a dependency.
- Unique identifiers
    - hashids [https://github.com/davidaurelio/hashids-python] - Implementation of hashids [http://hashids.org] in Python.
    - shortuuid [https://github.com/skorokithakis/shortuuid] - A generator library for concise, unambiguous and URL-safe UUIDs.
- Parser
    - ply [https://github.com/dabeaz/ply] - Implementation of lex and yacc parsing tools for Python.
    - pygments [http://pygments.org/] - A generic syntax highlighter.
    - pyparsing [https://github.com/pyparsing/pyparsing] - A general purpose framework for generating parsers.
    - python-nameparser [https://github.com/derek73/python-nameparser] - Parsing human names into their individual components.
    - python-phonenumbers [https://github.com/daviddrysdale/python-

phonenumbers] - Parsing, formatting, storing and validating international phone numbers.

- python-user-agents [https://github.com/selwin/python-user-agents] - Browser user agent parser.
- sqlparse [https://github.com/andialbrecht/sqlparse] - A non-validating SQL parser.

Third-party APIs

Libraries for accessing third party services APIs. Also see List of Python API Wrappers and Libraries [https://github.com/realpython/list-of-python-api-wrappers].

- apache-libcloud [https://libcloud.apache.org/] - One Python library for all clouds.
- boto3 [https://github.com/boto/boto3] - Python interface to Amazon Web Services.
- django-wordpress [https://github.com/istrategylabs/django-wordpress] - WordPress models and views for Django.
- facebook-sdk [https://github.com/mobolic/facebook-sdk] - Facebook Platform Python SDK.
- google-api-python-client [https://github.com/google/google-api-python-client] - Google APIs Client Library for Python.
- gspread [https://github.com/burnash/gspread] - Google Spreadsheets Python API.
- twython [https://github.com/ryanmcgrath/twython] - A Python wrapper for the Twitter API.

URL Manipulation

Libraries for parsing URLs.

- furl [https://github.com/gruns/furl] - A small Python library that makes parsing and manipulating URLs easy.
- purl [https://github.com/codeinthehole/purl] - A simple, immutable URL class with a clean API for interrogation and manipulation.
- pyshorteners [https://github.com/ellisonleao/pyshorteners] - A pure Python URL shortening lib.
- webargs [https://github.com/marshmallow-code/webargs] - A friendly library for parsing HTTP request arguments with built-in support for popular web frameworks.

Video

Libraries for manipulating video and GIFs.

- moviepy [https://zulko.github.io/moviepy/] - A module for script-based movie editing with many formats, including animated GIFs.
- scikit-video [https://github.com/aizvorski/scikit-video] - Video processing routines for SciPy.
- vidgear [https://github.com/abhiTronix/vidgear] - Most Powerful multi-threaded Video Processing framework.

Web Asset Management

Tools for managing, compressing and minifying website assets.

- django-compressor [https://github.com/django-compressor/django-compressor] - Compresses linked and inline JavaScript or CSS into a single cached file.

- django-pipeline [https://github.com/jazzband/django-pipeline] - An asset packaging library for Django.
- django-storages [https://github.com/jschneier/django-storages] - A collection of custom storage back ends for Django.
- fanstatic [http://www.fanstatic.org/en/latest/] - Packages, optimizes, and serves static file dependencies as Python packages.
- fileconveyor [http://wimleers.com/fileconveyor] - A daemon to detect and sync files to CDNs, S3 and FTP.
- flask-assets [https://github.com/miracle2k/flask-assets] - Helps you integrate webassets into your Flask app.
- webassets [https://github.com/miracle2k/webassets] - Bundles, optimizes, and manages unique cache-busting URLs for static resources.

Web Content Extracting

Libraries for extracting web contents.

- html2text [https://github.com/Alir3z4/html2text] - Convert HTML to Markdown-formatted text.
- lassie [https://github.com/michaelhelmick/lassie] - Web Content Retrieval for Humans.
- micawber [https://github.com/coleifer/micawber] - A small library for extracting rich content from URLs.
- newspaper [https://github.com/codelucas/newspaper] - News extraction, article extraction and content curation in Python.
- python-readability [https://github.com/buriy/python-readability] - Fast Python port of arc90's readability tool.
- requests-html [https://github.com/psf/requests-html] - Pythonic HTML Parsing

for Humans.

- sumy [https://github.com/miso-belica/sumy] - A module for automatic summarization of text documents and HTML pages.
- textract [https://github.com/deanmalmgren/textract] - Extract text from any document, Word, PowerPoint, PDFs, etc.
- toapi [https://github.com/gaojiuli/toapi] - Every web site provides APIs.

Web Crawling

Libraries to automate web scraping.

- cola [https://github.com/chineking/cola] - A distributed crawling framework.
- feedparser [https://pythonhosted.org/feedparser/] - Universal feed parser.
- grab [https://github.com/lorien/grab] - Site scraping framework.
- MechanicalSoup [https://github.com/MechanicalSoup/MechanicalSoup] - A Python library for automating interaction with websites.
- portia [https://github.com/scrapinghub/portia] - Visual scraping for Scrapy.
- pyspider [https://github.com/binux/pyspider] - A powerful spider system.
- robobrowser [https://github.com/jmcarp/robobrowser] - A simple, Pythonic library for browsing the web without a standalone web browser.
- scrapy [https://scrapy.org/] - A fast high-level screen scraping and web crawling framework.

Web Frameworks

Traditional full stack web frameworks. Also see RESTful API [https://github.com/vinta/awesome-python#restful-api].

- Synchronous
  - Django [https://www.djangoproject.com/] - The most popular web framework in Python.
    - awesome-django [https://github.com/shahraizali/awesome-django]
    - awesome-django [https://github.com/wsvincent/awesome-django]
  - Flask [http://flask.pocoo.org/] - A microframework for Python.
    - awesome-flask [https://github.com/humiaozuzu/awesome-flask]
  - Pyramid [https://pylonsproject.org/] - A small, fast, down-to-earth, open source Python web framework.
    - awesome-pyramid [https://github.com/uralbash/awesome-pyramid]
  - Masonite [https://github.com/MasoniteFramework/masonite] - The modern and developer centric Python web framework.
- Asynchronous
  - Tornado [http://www.tornadoweb.org/en/latest/] - A web framework and asynchronous networking library.

WebSocket

Libraries for working with WebSocket.

- autobahn-python [https://github.com/crossbario/autobahn-python] - WebSocket & WAMP for Python on Twisted and asyncio [https://docs.python.org/3/library/asyncio.html].
- channels [https://github.com/django/channels] - Developer-friendly asynchrony for Django.
- websockets [https://github.com/aaugustin/websockets] - A library for building WebSocket servers and clients with a focus on correctness and simplicity.

WSGI Servers

WSGI-compatible web servers.

- bjoern [https://github.com/jonashaag/bjoern] - Asynchronous, very fast and written in C.
- gunicorn [https://github.com/benoitc/gunicorn] - Pre-forked, ported from Ruby's Unicorn project.
- uWSGI [https://uwsgi-docs.readthedocs.io/en/latest/] - A project aims at developing a full stack for building hosting services, written in C.
- waitress [https://github.com/Pylons/waitress] - Multi-threaded, powers Pyramid.
- werkzeug [https://github.com/pallets/werkzeug] - A WSGI utility library for Python that powers Flask and can easily be embedded into your own projects.

Resources

Where to discover learning resources or new Python libraries.

Books

- Fluent Python [https://www.oreilly.com/library/view/fluent-python/9781491946237/]
- Think Python [https://greenteapress.com/wp/think-python-2e/]

Websites

- Tutorials

    - Full Stack Python [https://www.fullstackpython.com/]
    - Python Cheatsheet [https://www.pythoncheatsheet.org/]
    - Real Python [https://realpython.com]
    - The Hitchhiker's Guide to Python [https://docs.python-guide.org/]
    - Ultimate Python study guide [https://github.com/huangsam/ultimate-python]
- Libraries
    - Awesome Python @LibHunt [https://python.libhunt.com/]
- Others
    - Python ZEEF [https://python.zeef.com/alan.richmond]
    - Pythonic News [https://news.python.sc/]
    - What the f*ck Python! [https://github.com/satwikkansal/wtfpython]

Newsletters

- Awesome Python Newsletter [http://python.libhunt.com/newsletter]
- Pycoder's Weekly [http://pycoders.com/]
- Python Tricks [https://realpython.com/python-tricks/]
- Python Weekly [http://www.pythonweekly.com/]

Podcasts

- Django Chat [https://djangochat.com/]
- Podcast.__init__ [https://podcastinit.com/]
- Python Bytes [https://pythonbytes.fm]

- Running in Production [https://runninginproduction.com/]
- Talk Python To Me [https://talkpython.fm/]
- Test and Code [https://testandcode.com/]
- The Real Python Podcast [https://realpython.com/podcasts/rpp/]

Contributing

Your contributions are always welcome! Please take a look at the contribution guidelines [https://github.com/vinta/awesome-python/blob/master/CONTRIBUTING.md] first.

I will keep some pull requests open if I'm not sure whether those libraries are awesome, you could vote for them [https://github.com/vinta/awesome-python/pulls] by adding :+1: to them. Pull requests will be merged when their votes reach **20**.

If you have any question about this opinionated list, do not hesitate to contact me @VintaChen [https://twitter.com/VintaChen] on Twitter or open an issue on GitHub.