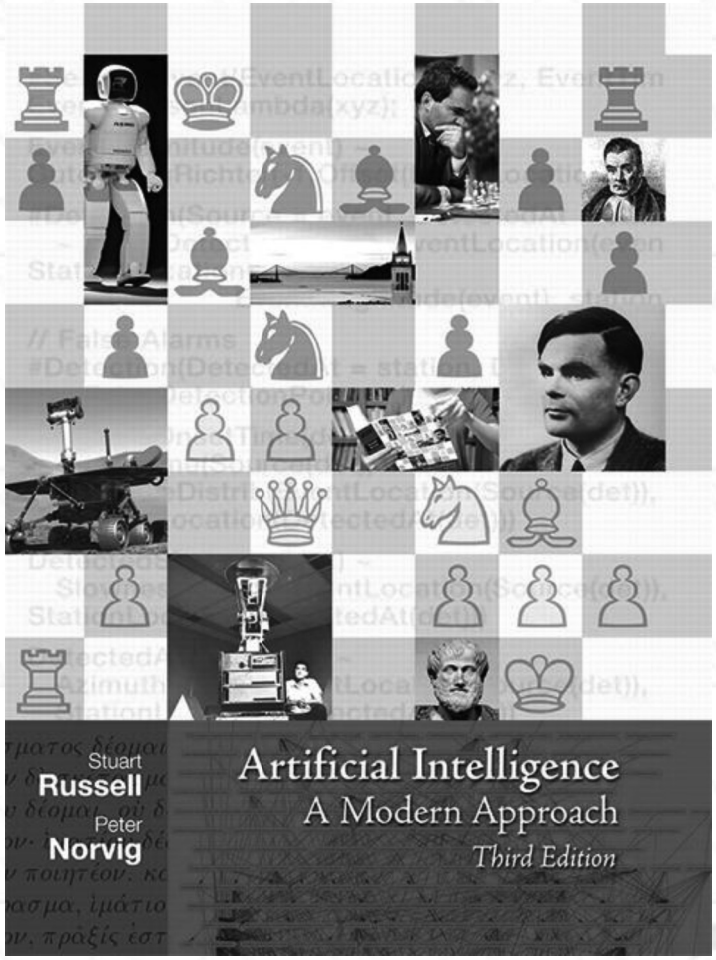
ARTIFICIAL INTELLIGENCE A MODERN APPROACH - AIMA



HTTP://AIMA.CS.BERKELEY.EDU/

Artificial Intelligence: A Modern Approach

(Third edition) by Stuart Russell and Peter Norvig

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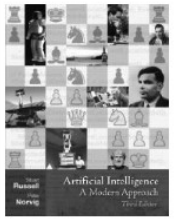

The leading textbook in Artificial Intelligence.
Used in over **1400** universities in over **125** countries.
The 22nd most cited computer science publication on Citeseer (and 4th most cited publication of this century).

What's New

- **Free Online AI course**, Berkeley's CS 188, offered through edX.

Comments and Discussion

- Comments from readers
- Errata list (errors in the book)
- **AIMA-talk** discussion list, open to all

AI Resources on the Web

- AI Resources in many categories
- AI courses that are using AIMA (1400 schools)

Online Code Repository

- Pseudo-code algorithms from the book in pdf.
- Online code at aimacode project on Github.
- Online demos (Java applets and Javascript)
- The OpenNERO 3D multiagent simulator

For the Instructor

- AI Instructor's Resource Page
- Lecture slides coming soon.

Getting the Book

- From the publisher, other online sellers or a local library
- **E-book:** CourseSmart, Kindle, Nook, Cafe Scribe, Kno
- Previous editions: 1st, 2nd, translations

Table of Contents

HTTPS://GITHUB.COM/AIMACODE

Online Code Repository

The code repository is now on **Github** as the **!!aimacode project**

Language Choices

What languages are instructors using? To get an approximate idea, I gave the query [`norvig russell "Modern Approach"` *language*] where *language* is one of the languages below, and looked at the estimated hit counts (in thousands) on various dates. Of course, neither recall nor precision is perfect for these queries, nor is the estimated number of results guaranteed to be accurate. Furthermore, activity on github indicates that Python is currently much more popular than Java or C++, so these counts may be largely of legacy pages.

Language	Sep 2004	Feb 2005	Jun 2007	Jan 2010	Mar 2019
none	8K	20K	75K	150K	258K
java	2K	5K	44K	37K	67K
c++	1K	2K	35K	105K	50K
python	1K	1K	18K	11K	44K
lisp	1K	1K	30K	19K	25K
prolog	1K	2K	23K	17K	23K

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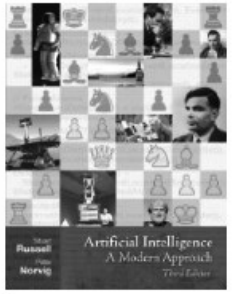
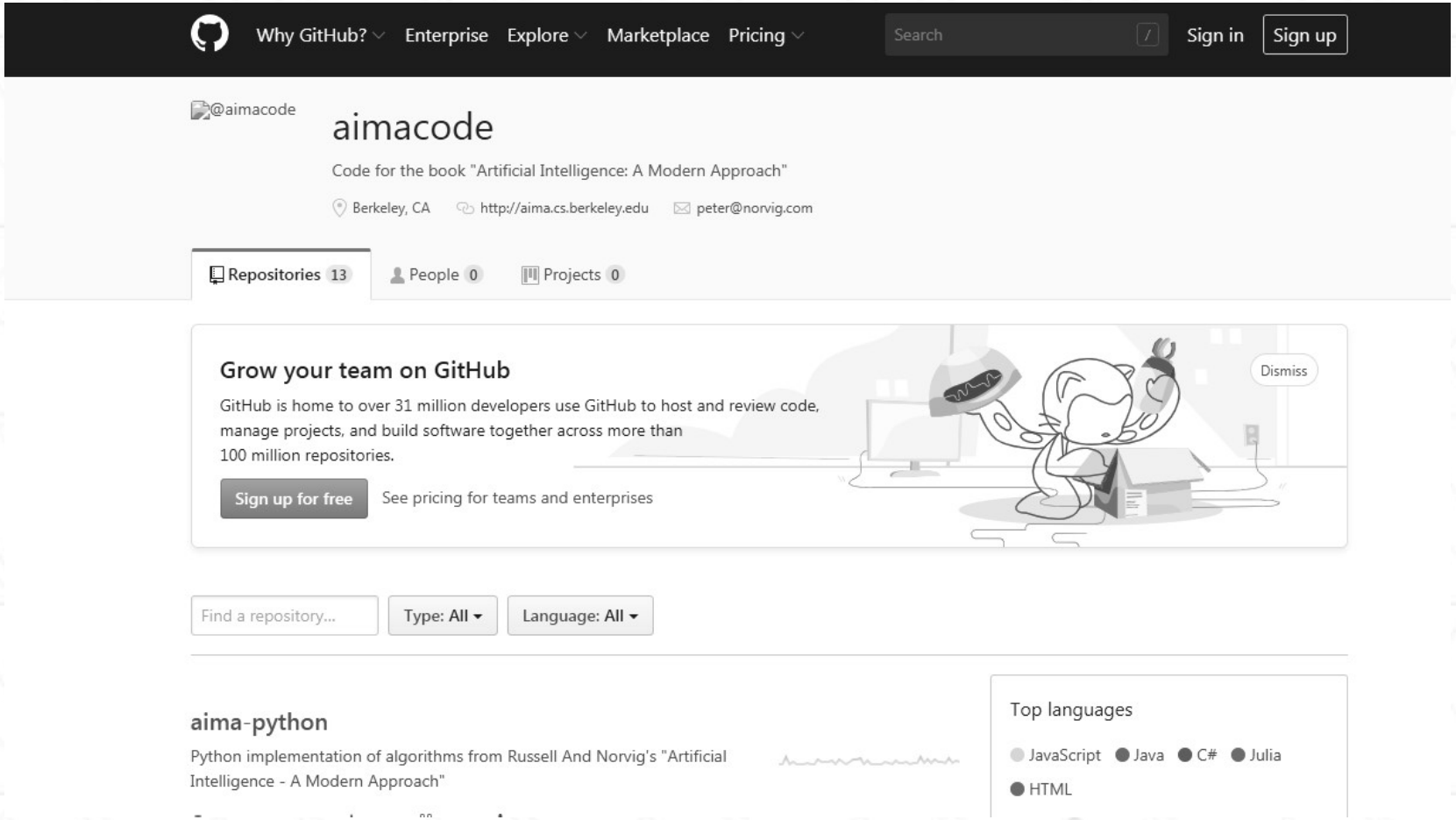


AIMACODE


Why GitHub?
Enterprise
Explore
Marketplace
Pricing
Search
Sign in
Sign up
@aimacode
aimacode
Code for the book "Artificial Intelligence: A Modern Approach"
Berkeley, CA
http://aima.cs.berkeley.edu
peter@norvig.com
Repositories 13
People 0
Projects 0
Grow your team on GitHub
GitHub is home to over 31 million developers use GitHub to host and review code, manage projects, and build software together across more than 100 million repositories.
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Dismiss
Find a repository...
Type: All
Language: All
aima-python
Python implementation of algorithms from Russell And Norvig's "Artificial Intelligence - A Modern Approach"
Top languages
JavaScript
Java
C#
Julia
HTML

GITHUB

GitHub es una forja (plataforma de desarrollo colaborativo) para alojar proyectos utilizando el sistema de control de versiones Git. Se utiliza principalmente para la creación de código fuente de programas de computadora. El software que opera GitHub fue escrito en Ruby on Rails. Desde enero de 2010, GitHub opera bajo el nombre de *GitHub, Inc.* Anteriormente era conocida como *Logical Awesome LLC*. El código de los proyectos alojados en GitHub se almacena típicamente de forma pública, aunque utilizando una cuenta de pago, también permite hospedar repositorios privados.

El 4 de junio de 2018, Microsoft compró GitHub por la cantidad de 7.500 millones de dólares.[1]

https://es.wikipedia.org/wiki/GitHub

GIT

Git (pronunciado "guit"[2]) es un software de control de versiones diseñado por Linus Torvalds, pensando en la eficiencia y la confiabilidad del mantenimiento de versiones de aplicaciones cuando éstas tienen un gran número de archivos de código fuente. Su propósito es llevar registro de los cambios en archivos de computadora y coordinar el trabajo que varias personas realizan sobre archivos compartidos.

Al principio, Git se pensó como un motor de bajo nivel sobre el cual otros pudieran escribir la interfaz de usuario o front end como Cogito o StGIT. [3] Sin embargo, Git se ha convertido desde entonces en un sistema de control de versiones con funcionalidad plena. [4] Hay algunos proyectos de mucha relevancia que ya usan Git, en particular, el grupo de programación del núcleo Linux.

El mantenimiento del software Git está actualmente (2009) supervisado por Junio Hamano, quien recibe contribuciones al código de alrededor de 280 programadores. En cuanto a derechos de autor Git es un software libre distribuible bajo los términos de la versión 2 de la Licencia Pública General de GNU.

https://es.wikipedia.org/wiki/Git

Git is the open source distributed version control system that facilitates GitHub activities on your laptop or desktop. This cheat sheet summarizes commonly used Git command line instructions for quick reference.

INSTALL GIT

GitHub provides desktop clients that include a graphical user interface for the most common repository actions and an automatically updating command line edition of Git for advanced scenarios.

GitHub for Windows
https://windows.github.com

GitHub for Mac
https://mac.github.com

Git distributions for Linux and POSIX systems are available on the official Git SCM web site.

Git for All Platforms
http://git-scm.com

CONFIGURE TOOLING

Configure user information for all local repositories

`$ git config --global user.name "[name]"`
Sets the name you want attached to your commit transactions
`$ git config --global user.email "[email address]"`
Sets the email you want attached to your commit transactions
`$ git config --global color.ui auto`
Enables helpful colorization of command line output

CREATE REPOSITORIES

Start a new repository or obtain one from an existing URL

`$ git init [project-name]`
Creates a new local repository with the specified name
`$ git clone [url]`
Downloads a project and its entire version history

MAKE CHANGES

Review edits and craft a commit transaction

`$ git status`
Lists all new or modified files to be committed
`$ git diff`
Shows file differences not yet staged
`$ git add [file]`
Snapshots the file in preparation for versioning
`$ git diff --staged`
Shows file differences between staging and the last file version
`$ git reset [file]`
Unstages the file, but preserve its contents
`$ git commit -m "[descriptive message]"`
Records file snapshots permanently in version history

GROUP CHANGES

Name a series of commits and combine completed efforts

`$ git branch`
Lists all local branches in the current repository
`$ git branch [branch-name]`
Creates a new branch
`$ git checkout [branch-name]`
Switches to the specified branch and updates the working directory
`$ git merge [branch]`
Combines the specified branch's history into the current branch
`$ git branch -d [branch-name]`
Deletes the specified branch

REFACTOR FILENAMES

Relocate and remove versioned files

```
$ git rm [file]
```

Deletes the file from the working directory and stages the deletion

```
$ git rm --cached [file]
```

Removes the file from version control but preserves the file locally

```
$ git mv [file-original] [file-renamed]
```

Changes the file name and prepares it for commit

SUPPRESS TRACKING

Exclude temporary files and paths

```
*.log
build/
temp-*
```

A text file named `.gitignore` suppresses accidental versioning of files and paths matching the specified patterns

```
$ git ls-files --other --ignored --exclude-standard
```

Lists all ignored files in this project

SAVE FRAGMENTS

Shelve and restore incomplete changes

```
$ git stash
```

Temporarily stores all modified tracked files

```
$ git stash pop
```

Restores the most recently stashed files

```
$ git stash list
```

Lists all stashed changesets

```
$ git stash drop
```

Discards the most recently stashed changeset

REVIEW HISTORY

Browse and inspect the evolution of project files

```
$ git log
```

Lists version history for the current branch

```
$ git log --follow [file]
```

Lists version history for a file, including renames

```
$ git diff [first-branch]...[second-branch]
```

Shows content differences between two branches

```
$ git show [commit]
```

Outputs metadata and content changes of the specified commit

REDO COMMITS

Erase mistakes and craft replacement history

```
$ git reset [commit]
```

Undoes all commits after `[commit]`, preserving changes locally

```
$ git reset --hard [commit]
```

Discards all history and changes back to the specified commit

SYNCHRONIZE CHANGES

Register a repository bookmark and exchange version history

```
$ git fetch [bookmark]
```

Downloads all history from the repository bookmark

```
$ git merge [bookmark]/[branch]
```

Combines bookmark's branch into current local branch

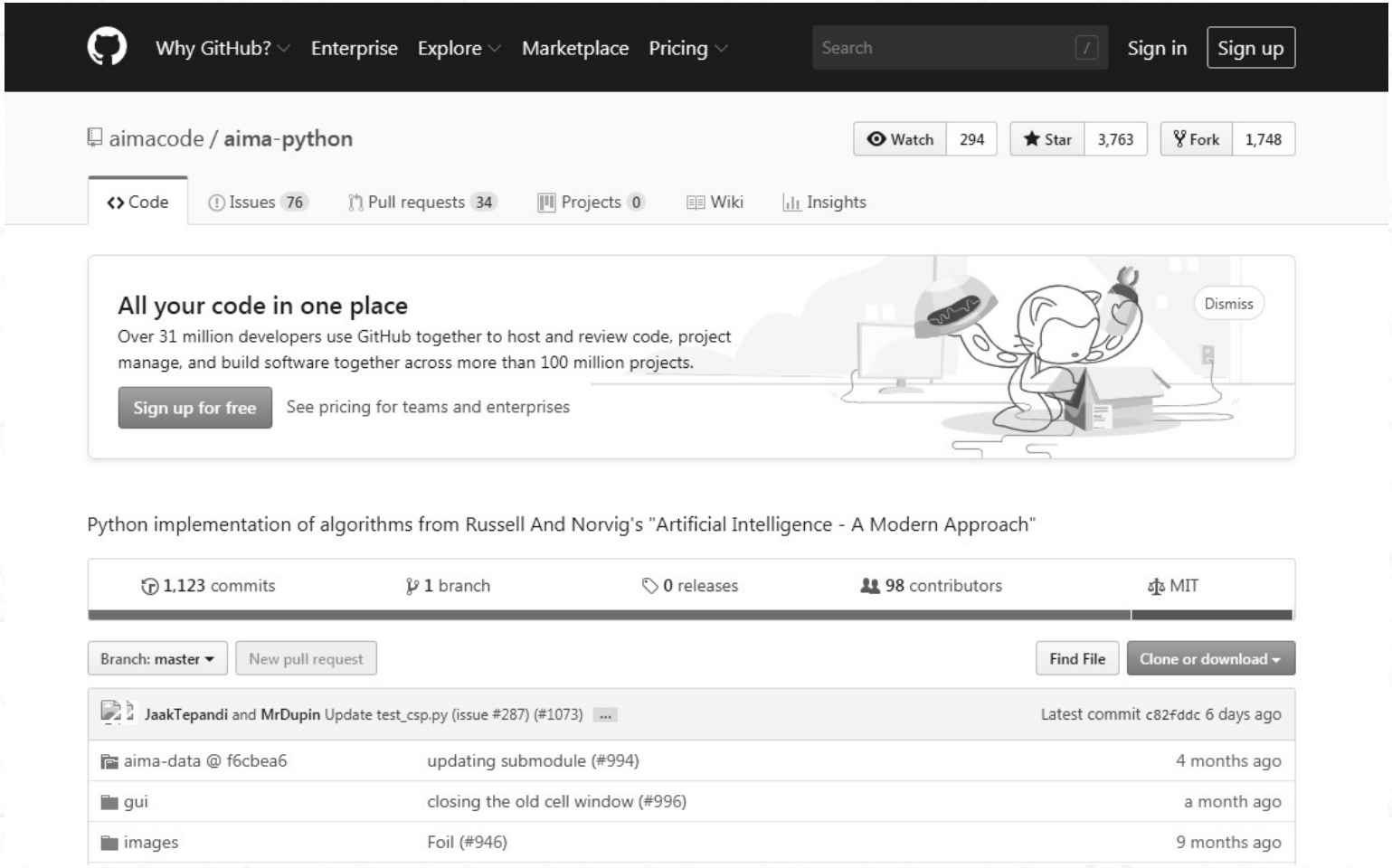
```
$ git push [alias] [branch]
```

Uploads all local branch commits to GitHub

```
$ git pull
```

Downloads bookmark history and incorporates changes

AIMA/PYTHON


Why GitHub?
Enterprise
Explore
Marketplace
Pricing
Search
Sign in
Sign up
aimacode / aima-python
Watch 294
Star 3,763
Fork 1,748
Code
Issues 76
Pull requests 34
Projects 0
Wiki
Insights
All your code in one place
Over 31 million developers use GitHub together to host and review code, project manage, and build software together across more than 100 million projects.
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See pricing for teams and enterprises
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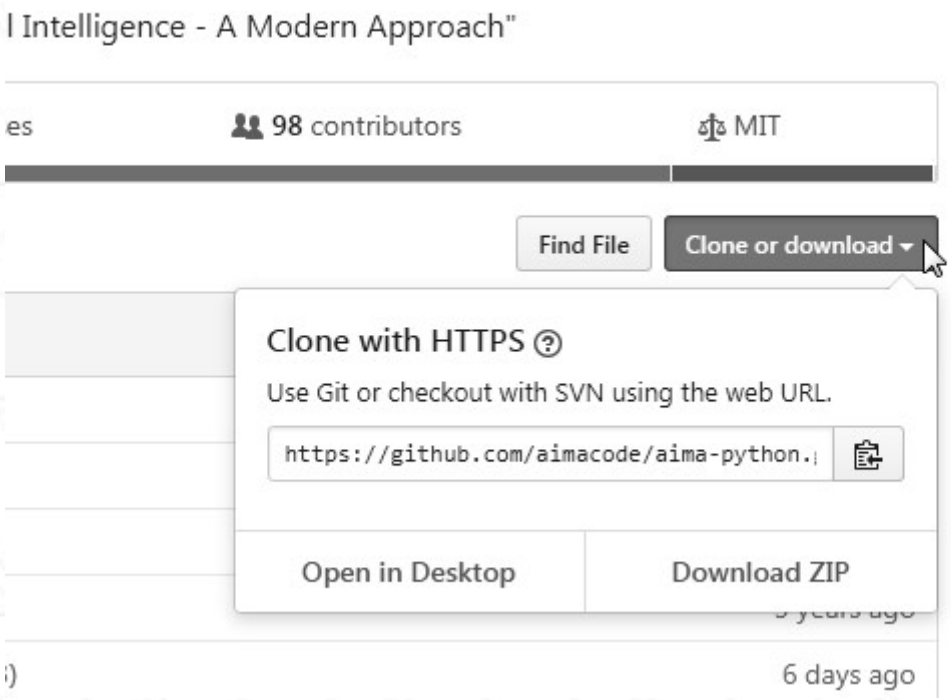
Python implementation of algorithms from Russell And Norvig's "Artificial Intelligence - A Modern Approach"
1,123 commits
1 branch
0 releases
98 contributors
MIT
Branch: master
New pull request
Find File
Clone or download
JaakTepandi and MrDupin Update test_csp.py (issue #287) (#1073)
Latest commit c82fddc 6 days ago
aima-data @ f6cbea6 updating submodule (#994) 4 months ago
gui closing the old cell window (#996) a month ago
images Foil (#946) 9 months ago

AIMA/PYTHON


l Intelligence - A Modern Approach"
es
98 contributors
MIT
Find File
Clone or download
Clone with HTTPS
Use Git or checkout with SVN using the web URL.
https://github.com/aimacode/aima-python.
Open in Desktop
Download ZIP
6 days ago

aima-python Build Status Binder

Python code for the book *Artificial Intelligence: A Modern Approach*. You can use this in conjunction with a course on AI, or for study on your own. We're looking for solid contributors to help.

Structure of the Project

When complete, this project will have Python implementations for all the pseudocode algorithms in the book, as well as tests and examples of use. For each major topic, such as `nlp` (natural language processing), we provide the following files:

- `nlp.py` : Implementations of all the pseudocode algorithms, and necessary support functions/classes/data.
- `tests/test_nlp.py` : A lightweight test suite, using `assert` statements, designed for use with `py.test` , but also usable on their own.
- `nlp.ipynb` : A Jupyter (IPython) notebook that explains and gives examples of how to use the code.
- `nlp_apps.ipynb` : A Jupyter notebook that gives example applications of the code.

Python 3.4 and up

This code requires Python 3.4 or later, and does not run in Python 2. You can install Python or use a browser-based Python interpreter such as repl.it. You can run the code in an IDE, or from the command line with `python -i filename.py` where the `-i` option puts you in an interactive loop where you can run Python functions. All notebooks are available in a binder environment. Alternatively, visit jupyter.org for instructions on setting up your own Jupyter notebook environment.

Installation Guide

To download the repository:

```
git clone https://github.com/aimacode/aima-python.git
```

Then you need to install the basic dependencies to run the project on your system:

```
pip install -r requirements.txt
```

You also need to fetch the datasets from the `aima-data` repository:

```
cd aima-python
git submodule init
git submodule update
```

Wait for the datasets to download, it may take a while. Once they are downloaded, you need to install `pytest`, so that you can run the test suite:

```
pip install pytest
```

Then to run the tests:

```
py.test
```

And you are good to go!

PYTEST

pytest es una herramienta de prueba de Python completa que te ayuda a escribir mejores programas.

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