Open Source AI Coding assistants comparison

Class	PDYP
Type	note

name	workspace integration	community & support	type of model	open source	possibility to self-host
CodeT5	None	-	family of LLMs	Yes	Yes
PolyCoder	-	-	LLM	Yes	Yes
FauxPilot	Vscode Visual Studio Vim Jetbrains (?work in progress)	GitHub based wiki and discussion forum	LLM	Yes	Yes
Tabby	Vscode IntelliJ VIM/NeoVIM	GitHun repository Slack Twitter/X LinkedIn Newsletter	LLM	Yes	Yes
CodeGeeX	Vscode Jetbrain AndroidStudio HBuilderX		large pre-trained model based on transformers	Yes	Yes
Jedi	Vim Vscode Emacs Kate Atom GNOME builder Gedit	Github repository			Yes

Languages support

name	Python	C++	JavaScript	TypeScript	Golang	Rust	Ruby
CodeT5	y		y		y		y
PolyCoder	y	y	y	y	y	y	y
FauxPilot							
Tabby	y	y	y	y	y	y	y
CodeGeeX	y	y	y	y	y		
Jedi	y						

name	PHP	Java	Kotlin	C#	Kotlin	Solidity	Shell
CodeT5	y	y					
PolyCoder	y	y		y			
FauxPilot							
Tabby	y	y	y	y	y	y	
CodeGeeX	y	y		y			y
Jedi							

name	R	Cuda	CSS	TeX	C	Scala
CodeT5						
PolyCoder					y	y
FauxPilot						
Tabby						
CodeGeeX	y	y	y	y	y	
Jedi						

CodeGeeX

https://github.com/THUDM/CodeGeeX

- pre-trained on 20+ programming languages
- docker for hosting
- training material:
  - open-source code datasets: the Pile and CodeParrot
  - Public GitHub repositories, filtered with the specified criteria
- HumanEval-X - new benchmark proposed for evaluation of generated code

PolyCoder

https://github.com/VHellendoorn/Code-LMs

- LLM model itself
- training 12 programming languages:
  - supervised learning
  - GPT-NeoX toolkit
  - Public Githun repositories, filtered with the specified criteria
- Docker for hosting (base image = 5.4 GB)

CodeT5

https://github.com/salesforce/CodeT5

- FAMILY of encoder-decoder models
- training:
  - CodeSearchNet data
  - CodeXGLUE benchmark
  - NL pre-trained models based on Transformer architectures
  - PL pre-trained models:
    - CuBERT
    - CodeBERT
    - GPT
- besides autocompletion:

- text-to-code
- code summarization

FauxPilot

https://github.com/fauxpilot/fauxpilot

- Docker for hosting
- SalesForce CodeGen models inside of NVIDIA's Triton Inference Server with the FasterTransformer backend

Tabby

https://github.com/TabbyML/tabby?tab=readme-ov-file

- self-contained
- supports consumer-grade GPUs
- todo publikacje

Jedi

https://github.com/davidhalter/jedi?tab=readme-ov-file

Other possible functionalities

- explaining code
- recommending alternatives
- bug fixing
- vulnerability detection
- refactoring

Comparison criteria

- latency
- accuracy - standardized test (simple algorithm, like sort) in a fresh IDE setup and check for empiric results
- security/privacy and data handling
- training material for the model