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# Mahdi Haghverdi

Back-end / Junior Developer

Persian articles on [virgool](#)

English articles on [medium](#)

[github.com/mahdihaghverdi](https://github.com/mahdihaghverdi)

4-year Python developer spent time in learning Python deep and well. Interested in PEPs and How things work in CPython. Regular Writer. Committed in mentoring and staying up-to-date with latest technologies.

## SKILLS

### Tools and Languages

Python

FastAPI

PostgreSQL

SQLAlchemy

Docker

LaTeX

Git & GitHub Actions

Unit-Test

PyTest

Poetry

RESTful

Agile

## PROJECTS

### FastBlog — [link](#)

- A simple RESTfull blog API, with the CRUD on blog posts and support a high performance comment management system written in Python with FastAPI and PostgreSQL.

### postfixcalc — [link](#)

- A library which provides the API to get an arithmetic expression as `str` and parse and evaluate that *safely* using postfix method.

### plumacalc — [link](#)

- A django app which uses postfixcalc to create a web based, self hosted calculator.

### listappend — [link](#)

- Python implementation of `PyListObject` and its append mechanism for the article:

- [How Append Works \(Persian\)](#)
- [How Append Works \(English\)](#)

### timetp — [link](#)

- A tokenizer and a parser written based on a DFA
- For full explanation read the article of this project at [Let's write a tokenizer and a parser](#)

## OPEN SOURCE CONTRIBUTION

### Aggify — [link](#)

*Aggify is a Python library to generate MongoDB aggregation pipelines.*

- Submit 9 pull requests which got merged into the main branch — [link](#)
- Implement one pipeline stage: `$out` — [Pull Request #13](#)
- Make the test coverage of Aggify 100% — [Pull Request #42](#)
- Fixed issues: [#16](#) and [#18](#)
- Aggify's test CI/CD in GitHub Actions now runs Python 3.8, 3.9, 3.10, 3.11 and 3.12 — [Pull Request #43](#)

## ARTICLES

### Timsort Algorithm Explained — [link](#)

- Full coverage and explanation for `timsort` algorithm.

### Let's Write a Tokenizer and Parser — [link](#)

- A comprehensice walk through of studing the theory of automata, writing a RegEx, drawing a DFA and implementing a tokenizer and a parser out of them.

### What's New in Python 3.12 — [link](#)

- Point to point, PEP to PEP and issue to issue of *What's new* in Python 3.12 stable release.

### Deep Dive Into Object and Types in the C Layer of CPython

- How objects and types are implemented in CPython?
- written in:
  - [Persian](#)
  - [English](#)

### How list.append Works In CPython's C Layer?

- How does CPython do an `list.append` exactly?
- written in:
  - [Persian](#)
  - [English](#)

### Python is TOO Fast — [link](#)

- Is Python fast or slow? Let's have a discussion.

### Python asyncio And TaskGroups — [link](#)

- Python `asyncio` module has a new type (from 3.11) called `TaskGroup`. Let's see why it was important to have it in `stdlib`.

### Python Standard Library vs. PyPI — [link](#)

- How Python `stdlib` differs from PyPI?

### Python, A Language For Companies Seeking High Performance — [link](#)

- Should the High-tech companies and startups use Python for their product or not?

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**CPython Will Be 5x Times Faster — [link](#)**

More in here: <https://virgool.io/@liewpl/>

- How faster CPython team will improve the performance of Python?