

Unleash the Power of PHP: AI, ML, Serverless, and Beyond



Image is generated by Gemini

WHO I am ?

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Full Stack Developer

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TODAY'S LEARNING



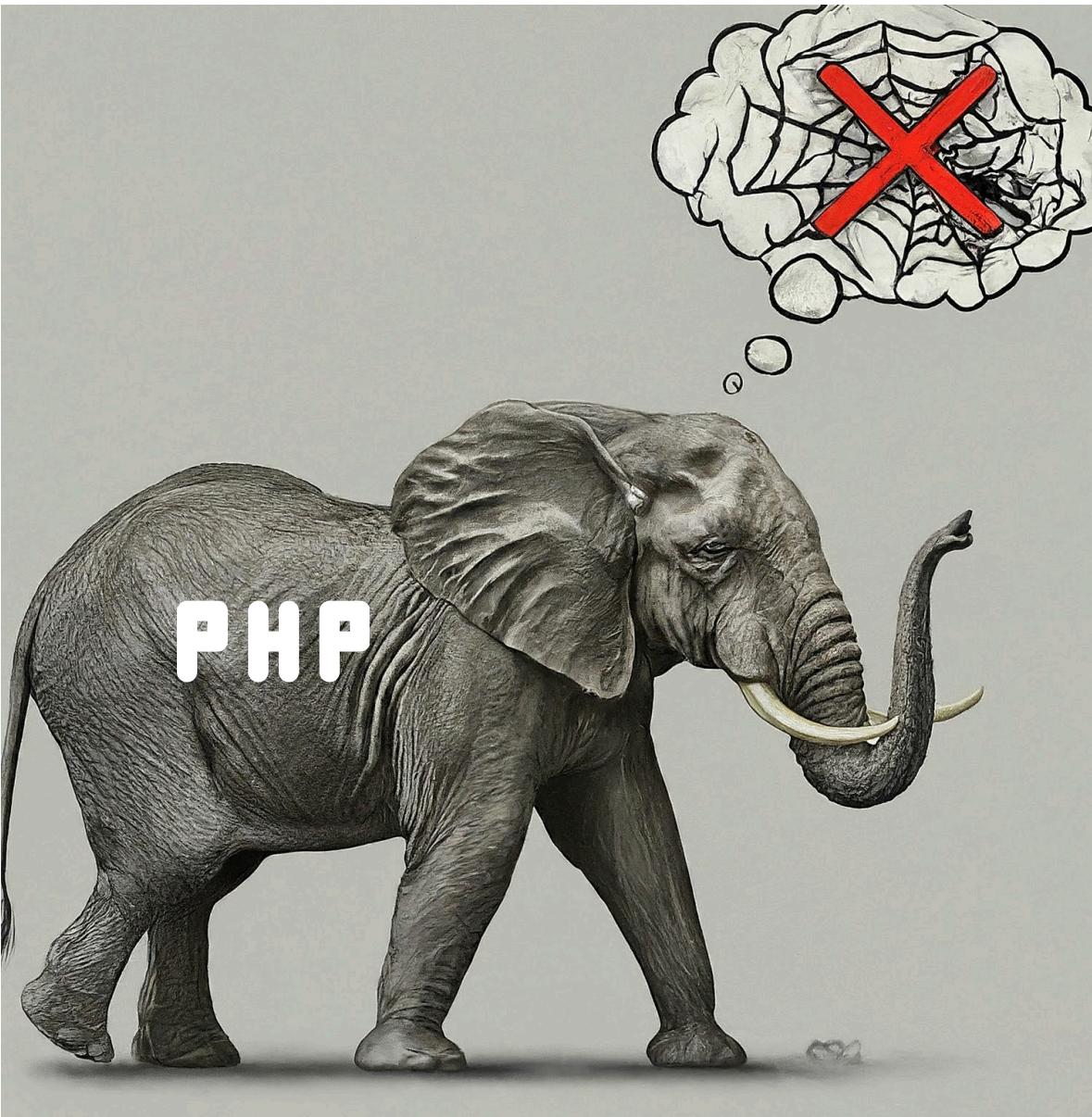
- 1 Misconception
- 2 PHP and Serverless Computing
- 3 PHP and ML
- 4 PHP and AI
- 5 The Future of PHP

MISCONCEPTION

Slow

Outdated

Scalable



not suitable

not secure

Limited

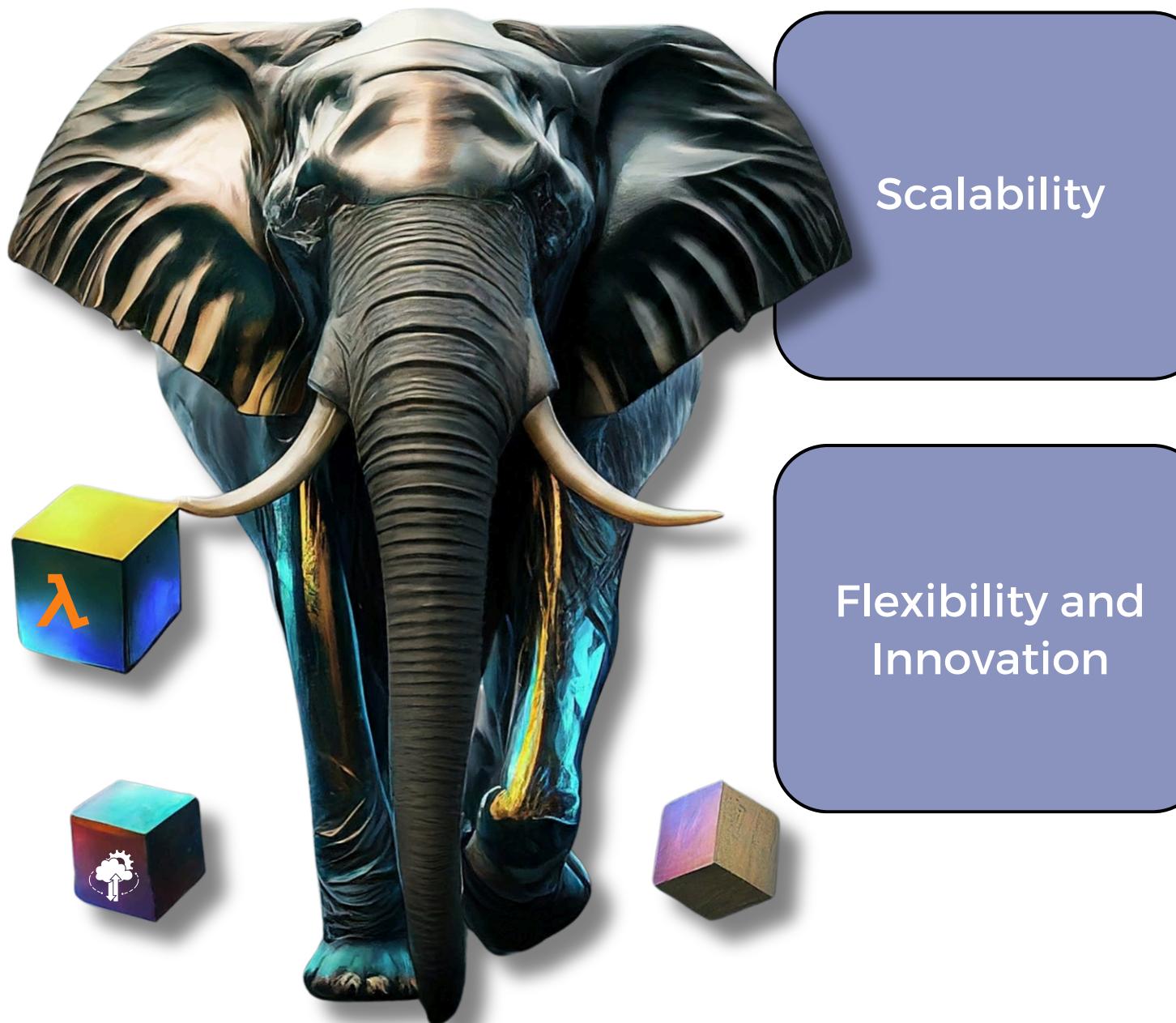
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ORDERING PIZZAS (SEVERLESS)



- What toppings will be - RAM, Storage etc
- What base will be - Which programming language
- Small/Medium/Large - code size
- Pizza delivery time whether immediate or schedule - execution time

WHY SERVERLESS IN PHP ??



Scalability

Cost Efficiency

Reduced
Operational
Complexity

Faster Time to
Market

Flexibility and
Innovation

Handling
Asynchronous
Tasks

Improved
Reliability and
Security

SERVERLESS OPTIONS - BREF.SH

The screenshot shows the Bref website homepage. The top navigation bar includes links for Documentation, News, Support, Dashboard, a search bar, and social media icons for GitHub and Twitter.

The main headline reads "Simple and scalable PHP with serverless". Below it, a sub-headline says "Simplify your infrastructure and scale with ease." A text block explains that Bref is an open-source project for AWS Lambda and API Gateway.

Call-to-action buttons include "Documentation" and "View on GitHub →". Logos for Laravel and Symfony are also present.

A large orange Lambda symbol is centered on the page.

A modal window titled "serverless.yml" displays the following configuration:

```
serverless.yml
service: demo
provider:
  name: aws
functions:
  web:
    runtime: php-82-fpm
    handler: public/index.php
    events:
      - httpApi: '*'
```

SERVERLESS OPTIONS - AWS FARGATE

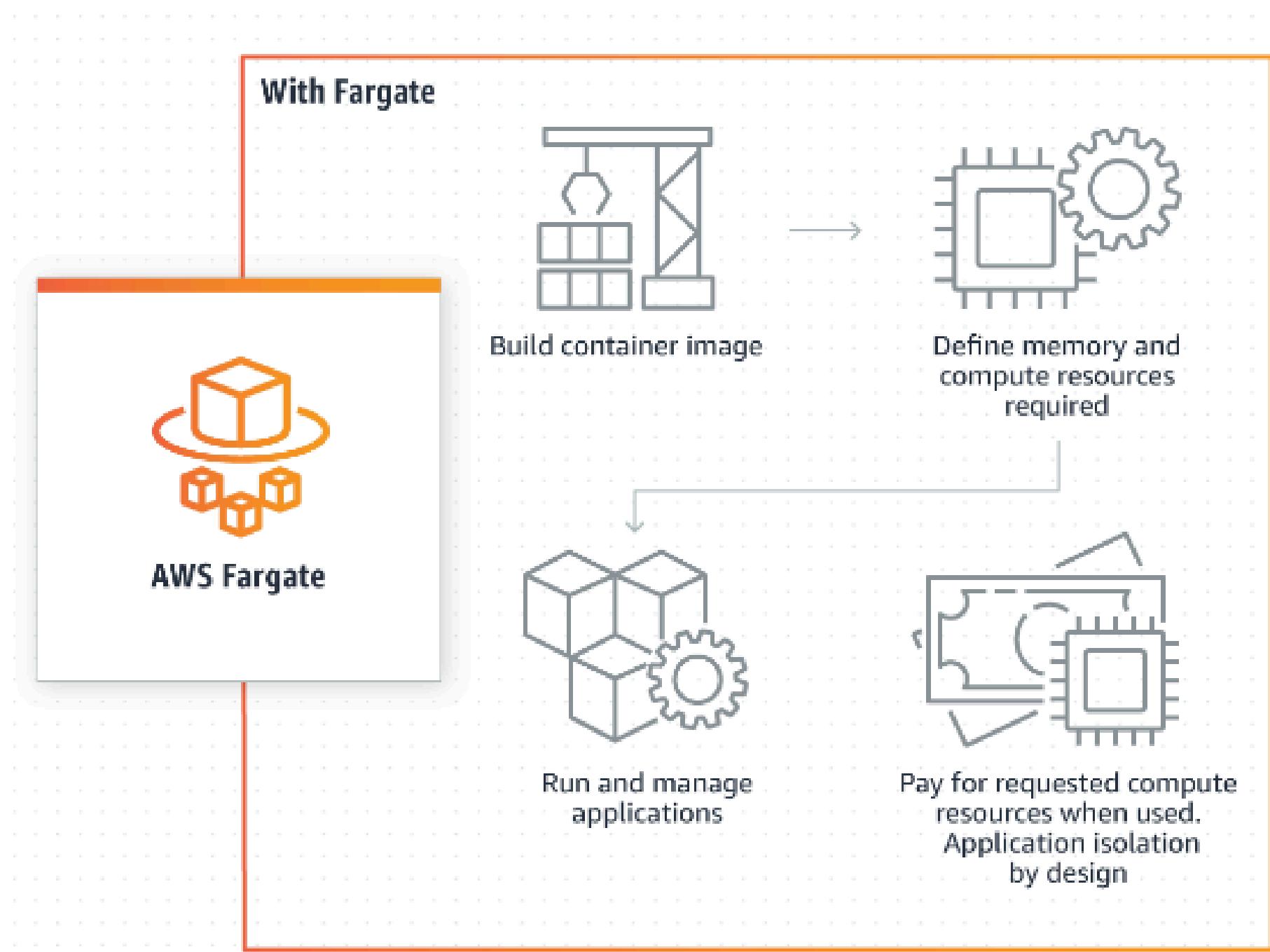
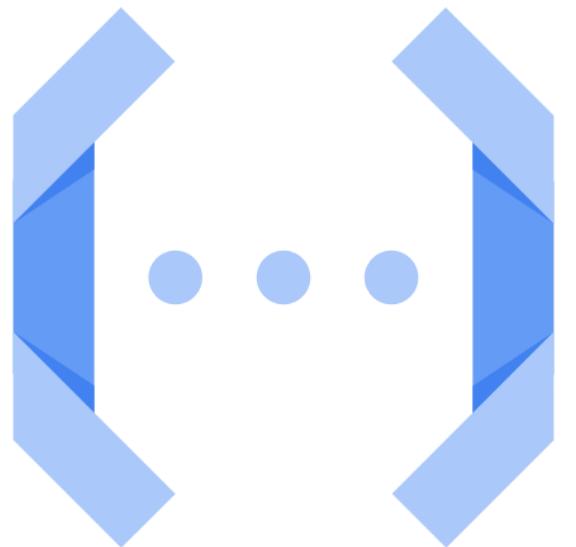
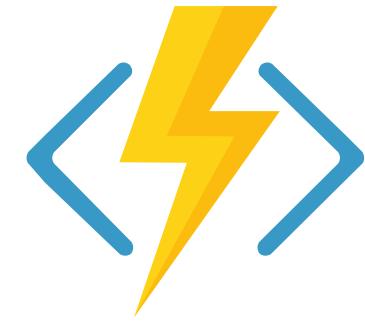


Image taken from official AWS fargate page

SERVERLESS OPTIONS



**Google
Cloud Functions**



**Azure
Functions**



WHY DO WE NEED PHP FOR ML?

PHP & ML - BEYOND THE HYPE

```
<?php echo " But It Works!" ?>
```

The Right Tool for the Job

For simpler tasks like sentiment analysis on customer reviews, PHP can handle it with a lightweight ML library

Rapid Prototyping

Spinning up a quick PHP script with some ML functionality can be a great way to test the waters before diving into a full-blown Python project

Leveraging Existing Skills

I know my way around our codebase. Integrating a bit of ML with libraries like PHP-ML lets me tap into that functionality without having to rewrite everything in Python.

Ecosystem is Evolving

Python might have a head start, but libraries like PHP-ML are getting better all the time. We're not exactly stuck in the stone age here. The tools are there, and they're improving

ML OPTIONS - RUBIX ML



Rubix ML

A high-level **machine learning** and **deep learning** library for the **PHP** language.

- **Developer-friendly** API is delightful to use
- **40+** supervised and unsupervised learning algorithms
- **Support** for ETL, preprocessing, and cross-validation
- **Open source** and free to use commercially

[Documentation](#) [GitHub](#) [Packagist](#)

 **ML** Public

A high-level machine learning and deep learning library for the PHP language.

● PHP ⭐ 2k 📈 176

 **Tensor** Public

A library and extension that provides objects for scientific computing in PHP.

● PHP ⭐ 222 📈 27

 **MNIST** Public template

Handwritten digit recognizer using a feed-forward neural network and the MNIST dataset of 70,000 human-labeled handwritten digits.

● PHP ⭐ 34 📈 8

 **Sentiment** Public template

An example project using a feed-forward neural network for text sentiment classification trained with 25,000 movie reviews from the IMDB website.

● PHP ⭐ 103 📈 13

 **Housing** Public template

An example project that predicts house prices for a Kaggle competition using a Gradient Boosted Machine.

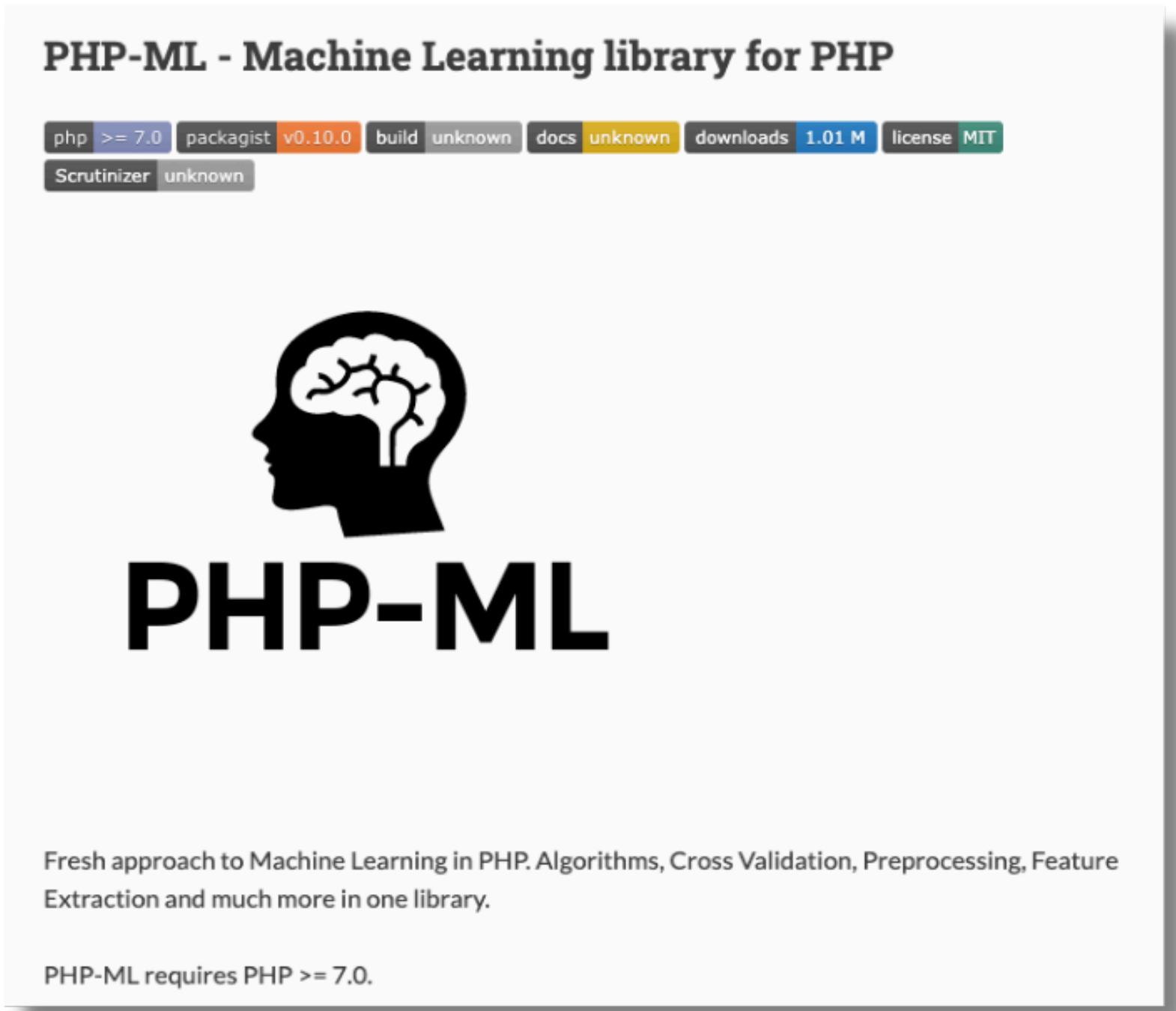
● PHP ⭐ 46 📈 22

 **Credit** Public template

An example project that predicts risk of credit card default using a Logistic Regression classifier and a 30,000 sample dataset.

● PHP ⭐ 27 📈 11

ML OPTIONS - PHP-ML



ML OPTIONS - PREDICTIONBUILDER

PredictionBuilder

stable v1.1.1 downloads 6.67 k license MIT

PredictionBuilder is a library for machine learning that builds predictions using a linear regression.

Requirements

This project requires [PHP 5.4 or higher](#) because makes use of trait and short array syntax.

Installation

You can install the library by [Composer](#). Add this to your project's composer.json:

```
"require": {  
    "denissimon/prediction-builder": "*"  
}
```

Then run `php composer.phar install` (or `composer install`).

ML OPTIONS - TRANSFORMERPHP

TransformersPHP

State-of-the-art Machine Learning for PHP. Run
Transformers natively in your PHP projects

- **TransformersPHP** is designed to be functionally equivalent to the Python library
- This library is built on top of the Hugging Face's Transformers library
- Used for a variety of tasks, including text generation, summarization, translation,
and more

<https://github.com/CodeWithKyrian/transformers-php>

CHALLENGES OF ML FOR PHP

```
<?php echo "Community need you" ?>
```

Learning Curve

Compared to more established languages like Python, PHP's machine learning ecosystem is relatively young

Compatibility with PHP

PHP's evolving versions can introduce compatibility issues with some frameworks, requiring developers to stay updated with the latest versions and ensure compatibility with their projects

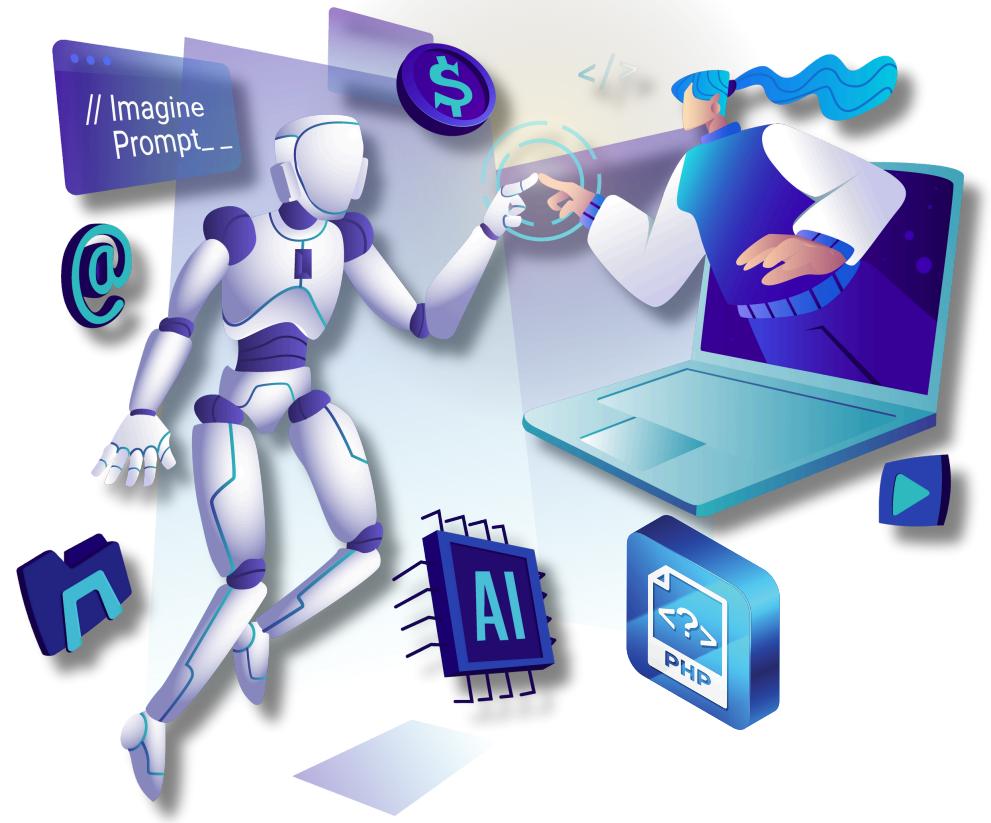
Limited Resources and Tutorials

Compared to Python's extensive ecosystem of resources and tutorials, PHP's machine learning community is still growing

WHAT IS THE CURRENT HOT TOPIC?



AI WITH PHP



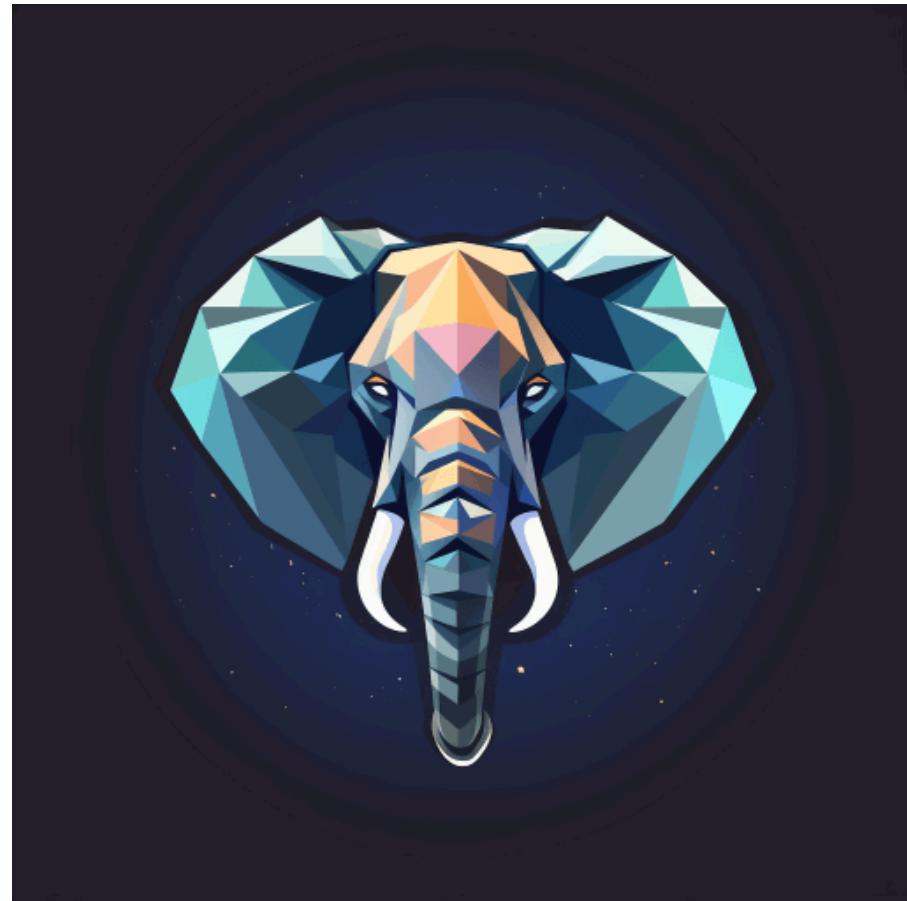
OPENAI-PHP



- In PHP we can use the openai-php/client open source project (MIT license) to use the GPT models
- This is a community project driven by Nuno Maduro and Sandro Gehri
- It performs HTTP call using the OpenAI API
- You need to have an API key from OpenAI
- Requires PHP 8.1+

<https://github.com/openai-php/client>

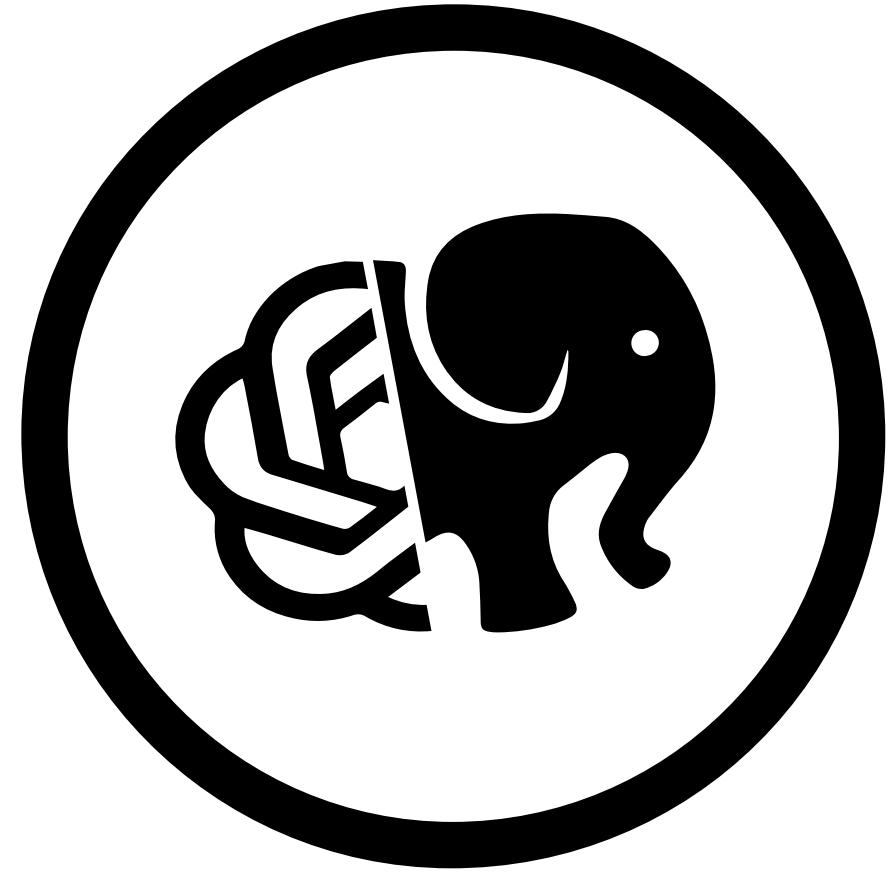
LLPHANT



- **LLPhant** is a comprehensive open source Generative AI framework for PHP
- The goal is to offer an easy to use library to build GenAI applications in PHP
- LLM supported: OpenAI, Ollama, Mistral
- Vector databases: Elasticsearch, File, Memory, Milvus, Qdrant, Redis

<https://github.com/theodo-group/LLPhant>

OPENAPI LIBRARY



Fully open-source and secure community-maintained,
PHP SDK for accessing the OpenAI GPT-3 API

<https://github.com/orhanerday/open-ai>

TWO OPENAI LIBRARY??

Feature	openai-php/client	orhanerday/open-ai
Focus	General OpenAI API	GPT-3 Text Generation
Maturity	More mature	Newer
Features	Wider range	Tailored for GPT-3
Community & Development	Larger community, active development	Smaller community, less active development

FUTURE OF PHP

- PHP8 and beyond
- The Evolving Role of PHP in AI
- Emerging Trends in AI Development with PHP
- Serverless PHP can lead to more cost-effective and scalable web applications
- Embracing modern development practices





JOIN REVOLUTION PHP8

```
<?php echo "Community need you" ?>
```

REFERENCES

- <https://www.youtube.com/watch?v=r8fgR0lTV-k>
- <https://www.youtube.com/watch?v=ZC83mgImk5I>
- <https://webkul.com/blog/php-ml-machine-learning-library-for-php/>
- <https://github.com/php-ai/php-ml-examples>
- <https://github.com/josephmisiti/awesome-machine-learning?tab=readme-ov-file#php-natural-language-processing>



**THANK YOU FOR
LISTENING!**