



AI Doge

Smart Contract Audit Report

TABLE OF CONTENTS

[Audited Details](#)

- Audited Project
- Blockchain
- Addresses
- Project Website
- Codebase

[Summary](#)

- Contract Summary
- Audit Findings Summary
- Vulnerabilities Summary

[Conclusion](#)

[Audit Results](#)

[Smart Contract Analysis](#)

- Detected Vulnerabilities

[Disclaimer](#)

[About Us](#)

AUDITED DETAILS

Audited Project

| Project name | Token ticker | Blockchain |
|--------------|--------------|------------|
| AI Doge | DogeGPT | BSC |

Addresses

| | |
|---------------------------|--|
| Contract address | 0xd1b8894E05F336f8dA2F7a594DC48e890038d341 |
| Contract deployer address | 0x4bE827b3eF1B238247D65Bf5212692c174cB40e9 |

Project Website

<https://aidogebsc.com/>

Codebase

<https://bscscan.com/address/0xd1b8894E05F336f8dA2F7a594DC48e890038d341#code>

SUMMARY

AiDoge is a meme project with a long foundation, with a large professional team, and the support of large projects like Rocket Raccoon and Binance. We'll be the hottest meme of 2023. The first Doge on Binance Smart Chain using Artificial Intelligence for the people and by the people.

Contract Summary

Documentation Quality

This project has a standard of documentation.

- Technical description provided.

Code Quality

The quality of the code in this project is up to standard.

- The official Solidity style guide is followed.

Test Scope

Project test coverage is 100% (Via Codebase).

Audit Findings Summary

Issues Found

- SWC-101 | Arithmetic operation issues discovered on lines 21, 31, 40, 41, 51, 408, 427, and 504.
- SWC-103 | A floating pragma is set on line 7, the current pragma Solidity directive is `^0.8.15`. It is recommended to specify a fixed compiler version to ensure that the bytecode produced does not vary between builds. This is especially important if you rely on bytecode-level verification of the code.
- SWC-108 | State variable visibility is not set on line 405. It is best practice to set the visibility of state variables explicitly to public or private.
- SWC-110 | Out of bounds array access issues discovered on lines 589 and 590.

CONCLUSION

We have audited the AI Doge project which has released on January 2023 to discover issues and identify potential security vulnerabilities in AI Doge Project. This process is used to find technical issues and security loopholes that find some common issues in the code.

The security audit report produced satisfactory results with low-risk issues.

The most common issue found in writing code on contracts that do not pose a big risk is that writing on contracts is close to the standard of writing contracts in general. The low-level issue found is a floating pragma is set, state variable visibility is not set, and out of bounds array access which the index access expression can cause an exception in case of use of an invalid array index value.

AUDIT RESULT

| Article | Category | Description | Result |
|-----------------------------------|--------------------|---|--------------------|
| Default Visibility | SWC-100 SWC-108 | Functions and state variables visibility should be set explicitly. Visibility levels should be specified consciously. | ISSUE FOUND |
| Integer Overflow and Underflow | SWC-101 | If unchecked math is used, all math operations should be safe from overflows and underflows. | ISSUE FOUND |
| Outdated Compiler Version | SWC-102 | It is recommended to use a recent version of the Solidity compiler. | PASS |
| Floating Pragma | SWC-103 | Contracts should be deployed with the same compiler version and flags that they have been tested thoroughly. | ISSUE FOUND |
| Unchecked Call Return Value | SWC-104 | The return value of a message call should be checked. | PASS |
| SELFDESTRUCT Instruction | SWC-106 | The contract should not be self-destructible while it has funds belonging to users. | PASS |
| Check-Effect Interaction | SWC-107 | Check-Effect-Interaction pattern should be followed if the code performs ANY external call. | PASS |
| Assert Violation | SWC-110 | Properly functioning code should never reach a failing assert statement. | ISSUE FOUND |
| Deprecated Solidity Functions | SWC-111 | Deprecated built-in functions should never be used. | PASS |
| Delegate call to Untrusted Caller | SWC-112 | Delegatecalls should only be allowed to trusted addresses. | PASS |
| DoS (Denial of Service) | SWC-113 SWC-128 | Execution of the code should never be blocked by a specific contract state unless required. | PASS |
| Race Conditions | SWC-114 | Race Conditions and Transactions Order Dependency should not be possible. | PASS |

| | | | |
|----------------------------------|-------------------------------|---|------|
| Authorization through tx.origin | SWC-115 | tx.origin should not be used for authorization. | PASS |
| Block values as a proxy for time | SWC-116 | Block numbers should not be used for time calculations. | PASS |
| Signature Unique Id | SWC-117 SWC-121 SWC-122 | Signed messages should always have a unique id. A transaction hash should not be used as a unique id. | PASS |
| Shadowing State Variable | SWC-119 | State variables should not be shadowed. | PASS |
| Weak Sources of Randomness | SWC-120 | Random values should never be generated from Chain Attributes or be predictable. | PASS |
| Incorrect Inheritance Order | SWC-125 | When inheriting multiple contracts, especially if they have identical functions, a developer should carefully specify inheritance in the correct order. The rule of thumb is to inherit contracts from more /general/ to more /specific/. | PASS |

SMART CONTRACT ANALYSIS

| | |
|------------------|--|
| Started | Sat Jan 21 2023 21:25:13 GMT+0000 (Coordinated Universal Time) |
| Finished | Sun Jan 22 2023 00:01:33 GMT+0000 (Coordinated Universal Time) |
| Mode | Standard |
| Main Source File | DogeGPT.Sol |

Detected Issues

| ID | Title | Severity | Status |
|---------|---------------------------------------|----------|--------------|
| SWC-101 | ARITHMETIC OPERATION "+" DISCOVERED | low | acknowledged |
| SWC-101 | ARITHMETIC OPERATION "-" DISCOVERED | low | acknowledged |
| SWC-101 | ARITHMETIC OPERATION "*" DISCOVERED | low | acknowledged |
| SWC-101 | ARITHMETIC OPERATION "/" DISCOVERED | low | acknowledged |
| SWC-101 | ARITHMETIC OPERATION "/" DISCOVERED | low | acknowledged |
| SWC-101 | ARITHMETIC OPERATION "*" DISCOVERED | low | acknowledged |
| SWC-101 | ARITHMETIC OPERATION "*" DISCOVERED | low | acknowledged |
| SWC-101 | ARITHMETIC OPERATION "*" DISCOVERED | low | acknowledged |
| SWC-103 | A FLOATING PRAGMA IS SET. | low | acknowledged |
| SWC-108 | STATE VARIABLE VISIBILITY IS NOT SET. | low | acknowledged |
| SWC-110 | OUT OF BOUNDS ARRAY ACCESS | low | acknowledged |
| SWC-110 | OUT OF BOUNDS ARRAY ACCESS | low | acknowledged |

SWC-101 | ARITHMETIC OPERATION "+" DISCOVERED

LINE 21

low SEVERITY

This plugin produces issues to support false positive discovery within Mythril.

Source File

- DogeGPT.Sol

Locations

```
20  function add(uint a, uint b) internal pure returns (uint) {  
21  uint c = a + b;  
22  require(c >= a, "SafeMath: addition overflow");  
23  
24  return c;
```

SWC-101 | ARITHMETIC OPERATION "-" DISCOVERED

LINE 31

low SEVERITY

This plugin produces issues to support false positive discovery within Mythril.

Source File

- DogeGPT.Sol

Locations

```
30  require(b <= a, errorMessage);  
31  uint c = a - b;  
32  
33  return c;  
34  }
```

SWC-101 | ARITHMETIC OPERATION "*" DISCOVERED

LINE 40

low SEVERITY

This plugin produces issues to support false positive discovery within Mythril.

Source File

- DogeGPT.Sol

Locations

```
39
40  uint c = a * b;
41  require(c / a == b, "SafeMath: multiplication overflow");
42
43  return c;
```

SWC-101 | ARITHMETIC OPERATION "/" DISCOVERED

LINE 41

low SEVERITY

This plugin produces issues to support false positive discovery within Mythril.

Source File

- DogeGPT.Sol

Locations

```
40  uint c = a * b;  
41  require(c / a == b, "SafeMath: multiplication overflow");  
42  
43  return c;  
44  }
```

SWC-101 | ARITHMETIC OPERATION "/" DISCOVERED

LINE 51

low SEVERITY

This plugin produces issues to support false positive discovery within Mythril.

Source File

- DogeGPT.Sol

Locations

```
50  require(b > 0, errorMessage);
51  uint c = a / b;
52
53  return c;
54  }
```

SWC-101 | ARITHMETIC OPERATION "*" DISCOVERED

LINE 408

low SEVERITY

This plugin produces issues to support false positive discovery within Mythril.

Source File

- DogeGPT.Sol

Locations

```
407
408  uint256 public numTokensSellToFee = 100000 * 10**18;
409
410  event MinTokensBeforeSwapUpdated(uint256 minTokensBeforeSwap);
411  event SwapAndLiquifyEnabledUpdated(bool enabled);
```

SWC-101 | ARITHMETIC OPERATION "*" DISCOVERED

LINE 427

low SEVERITY

This plugin produces issues to support false positive discovery within Mythril.

Source File

- DogeGPT.Sol

Locations

```
426  _owner = msg.sender ;
427  _totalSupply = 1000000000 * (10**18);
428
429  _balances[_owner] = _totalSupply;
430
```

SWC-101 | ARITHMETIC OPERATION "*" DISCOVERED

LINE 504

low SEVERITY

This plugin produces issues to support false positive discovery within Mythril.

Source File

- DogeGPT.Sol

Locations

```
503  {
504  require(_numTokensSellToFee >= 10000 * 10**18 && _numTokensSellToFee <= 10000000 *
10**18, "Threshold must be set within 10,000 to 10,000,000 tokens");
505  numTokensSellToFee = _numTokensSellToFee;
506  }
507
```


SWC-103 | A FLOATING PRAGMA IS SET.

LINE 7

low SEVERITY

The current pragma Solidity directive is `""^0.8.15""`. It is recommended to specify a fixed compiler version to ensure that the bytecode produced does not vary between builds. This is especially important if you rely on bytecode-level verification of the code.

Source File

- DogeGPT.Sol

Locations

```
6
7  pragma solidity ^0.8.15;
8
9  interface IBEP20 {
10     function totalSupply() external view returns (uint);
```

SWC-108 | STATE VARIABLE VISIBILITY IS NOT SET.

LINE 405

low SEVERITY

It is best practice to set the visibility of state variables explicitly. The default visibility for "inSwapAndLiquify" is internal. Other possible visibility settings are public and private.

Source File

- DogeGPT.Sol

Locations

```
404
405  bool inSwapAndLiquify;
406  bool private swapAndLiquifyEnabled = true;
407
408  uint256 public numTokensSellToFee = 100000 * 10**18;
```

SWC-110 | OUT OF BOUNDS ARRAY ACCESS

LINE 589

low SEVERITY

The index access expression can cause an exception in case of use of invalid array index value.

Source File

- DogeGPT.Sol

Locations

```
588 address[] memory path = new address[](2);
589 path[0] = address(this);
590 path[1] = uniswapV2Router.WETH();
591
592 _approve(address(this), address(uniswapV2Router), tokenAmount);
```

SWC-110 | OUT OF BOUNDS ARRAY ACCESS

LINE 590

low SEVERITY

The index access expression can cause an exception in case of use of invalid array index value.

Source File

- DogeGPT.Sol

Locations

```
589 path[0] = address(this);
590 path[1] = uniswapV2Router.WETH();
591
592 _approve(address(this), address(uniswapV2Router), tokenAmount);
593
```

DISCLAIMER

This report is subject to the terms and conditions (including without limitation, description of services, confidentiality, disclaimer and limitation of liability) set forth in the Services Agreement, or the scope of services, and terms and conditions provided to you (“Customer” or the “Company”) in connection with the Agreement. This report provided in connection with the Services set forth in the Agreement shall be used by the Company only to the extent permitted under the terms and conditions set forth in the Agreement. This report may not be transmitted, disclosed, referred to, or relied upon by any person for any purposes, nor may copies be delivered to any other person other than the Company, without Sysfixed’s prior written consent in each instance.

This report is not, nor should be considered, an “endorsement” or “disapproval” of any particular project or team. This report is not, nor should be considered, an indication of the economics or value of any “product” or “asset” created by any team or project that contracts Sysfixed to perform a security assessment. This report does not provide any warranty or guarantee regarding the absolute bug-free nature of the technology analyzed, nor do they provide any indication of the technologies proprietors, business, business model, or legal compliance.

This is a limited report on our findings based on our analysis, in accordance with good industry practice as of the date of this report, in relation to cybersecurity vulnerabilities and issues in the framework and algorithms based on smart contracts, the details of which are set out in this report. In order to get a full view of our analysis, it is crucial for you to read the full report. While we have done our best in conducting our analysis and producing this report, it is important to note that you should not rely on this report and cannot claim against us on the basis of what it says or doesn’t say, or how we produced it, and it is important for you to conduct your own independent investigations before making any decisions. We go into more detail on this in the below disclaimer below – please make sure to read it in full.

This report should not be used in any way to make decisions around investment or involvement with any particular project. This report in no way provides investment advice, nor should be leveraged as investment advice of any sort. This report represents an extensive assessing process intending to help our customers increase the quality of their code while reducing the high level of risk presented by cryptographic tokens and blockchain technology.

This report is provided for information purposes only and on a non-reliance basis and does not constitute investment advice. No one shall have any right to rely on the report or its contents, and Sysfixed and its affiliates (including holding companies, shareholders, subsidiaries, employees, directors, officers, and other representatives) (Sysfixed) owe no duty of care.

ABOUT US

Sysfixed is a blockchain security certification organization established in 2021 with the objective to provide smart contract security services and verify their correctness in blockchain-based protocols. Sysfixed automatically scans for security vulnerabilities in Ethereum and other EVM-based blockchain smart contracts. Sysfixed a comprehensive range of analysis techniques—including static analysis, dynamic analysis, and symbolic execution—can accurately detect security vulnerabilities to provide an in-depth analysis report. With a vibrant ecosystem of world-class integration partners that amplify developer productivity, Sysfixed can be utilized in all phases of your project's lifecycle. Our team of security experts is dedicated to the research and improvement of our tools and techniques used to fortify your code.