AntiFragile Build

## Problem

Audits are growing increasingly expensive whilst the volume and sophistication of attacks has also increased in recent years. Naïve testing solutions such as fuzzy testing in test suites are a good start to the automation of testing, but still leave room for unintended logic errors.

There is a gap in the market between peer reviews as a cheap way of crowdsourcing preliminary testing of a smart contract/protocol and expensive professional audits. This need means that code is deployed to mainnet often untested outside of a small group of developers with often imperfect knowledge of all current attack surfaces to check for.

## Solution

Inspired by recent leaps forward in the usage of LLM agents to complete tasks we propose an agentic system to identify security weaknesses and known bugs from uploaded smart contracts with code suggestions to fix them. By aggregating a known vulnerability knowledge base and providing the agent tools we can emulate more sophisticated security researchers and auditors at an accessible cost.

The platform will be accessible to all at as low a cost as possible and served as a public good by Agent Smth, an LLM agent platform who will provide the AI agent infrastructure. Our mission is to produce more rigorous and secure smart contracts to make web3 safer.

## Project Proposal

The proposed project plan aims to develop an accessible platform that provides easy access to smart contract security reviews and gas optimisations in order to promote better security and token engineering in the cryptocurrency ecosystem. The platform will consist of the following phases:

Phase 1: Building the security smart contract agents

Using the platform for LLM agent infrastructure provided by Smth AI we will build the necessary agents to identify security vulnerabilities as well as make code amendment suggestions. These agents will then be served by a dedicated UI on the antifragile.build site that allows users to upload smart contracts to be analysed.

#### Deliverables

* Security vulnerability agents hosted on Smth AI platform
* UI for developers and investors to upload smart contracts on antifragile.build to be analysed by Security AI Agents

Phase 2: Add gas optimisation agents

Focus on further improvements to smart contracts by making them cheaper to deploy and operate. Add to the previous system agents that look for gas optimisation opportunities in the smart contracts before making code change suggestions, as well as any required tools.

#### Deliverables

* Add gas optimisation agents and tools to platform

Phase 3: VitalikGPT

Extend the capability for agents to augment users understanding of smart contracts for greater awareness. Create educational materials and add chatbot capability to better help community members understand smart contracts they use and how token design choices can impact projects.

#### Deliverables

* <Insert here>

## Conclusion

<Insert here>

How would we spend the funds?

Based on the proposed project plan, the grant funds will be spent on the following activities:

<Insert here>