

**Institute Name:**

**Model Institute of Engg. & Technology**

**Title of the Innovation/Prototype:**

**KAVACH.ai**

**Team Lead Name:**

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**Team Lead Gender:**

**Male**

**FY of Development:**

**2022-23**

**Developed as part of:**

**Academic Requirement/Study Project**

**Innovation Type:**

**Service**

**TRL LEVEL:**

**4**

**MRL Level:**

**MRL 3: Manufacturing proof of concept developed**

**IRL Level:**

**IRL 2: Applied Research (Market Size and Competitive Analysis) & Business Plan – Value Proposition & IP Identification**

**Theme:**

**ICT, cyber-physical systems, Blockchain, Cognitive computing, Cloud computing, AI & ML., Software - Web App Development, Defence & Security,**

**Define the problem and its relevance to today's market / society / industry need:**

The internet has become an integral part of our lives, but it also poses significant cyber threats. Despite growing awareness of these risks, many users remain uninformed, making them vulnerable to scams and financial losses. Recent studies estimate that global cybersecurity threats could reach a staggering 10 trillion dollars. Unfortunately, there is no single solution to fully protect users, making it crucial to promote cyber hygiene awareness and educate people on safe internet practices. This project eradicates the need for awareness and protocols to safeguard users against cyber-attacks and proposes solutions to create a safer online environment globally

**Describe the Solution / Proposed / Developed:**

Our solution, KAVACH, addresses the issue of a lack of cyber hygiene awareness among Indian internet users and the increasing risks associated with online activities. KAVACH is an AI-based advisory tool that offers a one-stop solution to safeguard users' online activities. It uses federated learning models and deep neural networks to classify complex types of attacks, and a sandboxing agent to detect and prevent malware attacks. KAVACH is designed to meet the needs of users of all skill levels, promoting cyber hygiene awareness and creating a safe online environment for Indian internet users.

**Explain the uniqueness and distinctive features of the (product / process / service) solution:**

\* AI based agent deeply classifies the web urls and classifies them for further processing. \* An advisory/recommendation system for the genuine web portal / sources for downloading commonly-used software/content. \* Sandboxed Environment to check for malformed or malicious data propagation. \* A global Artificial intelligent Federated Learning based model that updates each and every product distribution with an attack incident. \* A Black list and a while list is maintained globally in order to safeguard every other user from any type of attack.

**How your proposed / developed (product / process / service) solution is different from similiar kind of product by the competitors if any:**

**\* A system and method for providing artificial intelligence based cyber hygiene framework. \* An artificial intelligent advisory service to the users to help them avoid potentially dangerous web sources. \* A globally coordinated federated learning framework which continuously fine tunes its response to global threats. \* A feedback mechanism which helps improve accuracy and effectiveness of the advisories , issued by the AI based agent on individual computers , against new threats. \* A multidimensional framework protecting user against a multitude of online frauds and threats. \* A framework providing access to genuine web sources foe downloading commonly-used software/content.**

**Is there any IP or Patentable Component associated with the Solution?:**

**Yes**

**Has the Solution Received any Innovation Grant/Seefund Support?:**

**No**

**Are there any Recognitions (National/International) Obtained by the Solution?:**

**No**

**\*Is the Solution Commercialized either through Technology Transfer or Enterprise Development/Startup?:**

**No**

**Had the Solution Received any Pre-Incubation/Incubation Support?:**

**No**

**Video URL:**

**<https://youtu.be/ML9uRvGzMXE>**

**Innovation Photograph:**

**[View File](#)**

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