

## HBKU Thematic Research Grant 1<sup>st</sup> Cycle– Project Highlight

**Project Title:** Blending AI and Regulation for lawful anonymous WEB navigation



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### Executive Summary

Nowadays, more and more applications available in digital markets, i.e., Play-store, Apple Store, hide other software within them, often without the user's knowledge. Consequently, when users download an application, they may simultaneously download unrequired software, i.e., hidden services, which are not useful and possibly harmful---from both a technical and legal perspective.

Among these hidden services, a new type of HTTP proxy, called Residential Proxy (RESIP), has been spreading recently. Once installed, a RESIP service transforms the user's device into an exit point of a VPN network. Users who install an application that contains a hidden RESIP service unknowingly become responsible for the web traffic generated by the RESIP network, potentially becoming accountable for cyber-crimes committed by third parties.

This proposal aims to address the spread of unauthorized internet proxy services by providing adequate technological and legal countermeasures, as well as to define policy guidelines to promote the correct use of anonymous internet browsing technologies. From a technical point of view, the primary objective is to investigate the functioning of RESIP proxies, also providing an AI-based detection mechanism. From the legal perspective, the goal is to provide guidelines to stem the malicious spread of proxy services, avoiding legal consequences for unwitting users.

### Expected Outcome

- 1. Solution design and implementation: Design and implementation of a countermeasure to unlawful RESIP based on artificial intelligence, able to analyze the applications installed on a device and detect any running RESIP services.
- 2. Solution feasibility assessment: Preliminary study on the feasibility of using artificial intelligence for large-scale monitoring of proxy technologies, such as VPN and RESIP.
- 3. Law and policy assessment and development: Analysis of the existent legal framework and the extent to which it applies to the RESIP technology. Development of the necessary legal framework for the regulation of the provision and use of proxy services.

**Collaborating HBKU entities:**

- College of Science and Engineering
- College of Law