

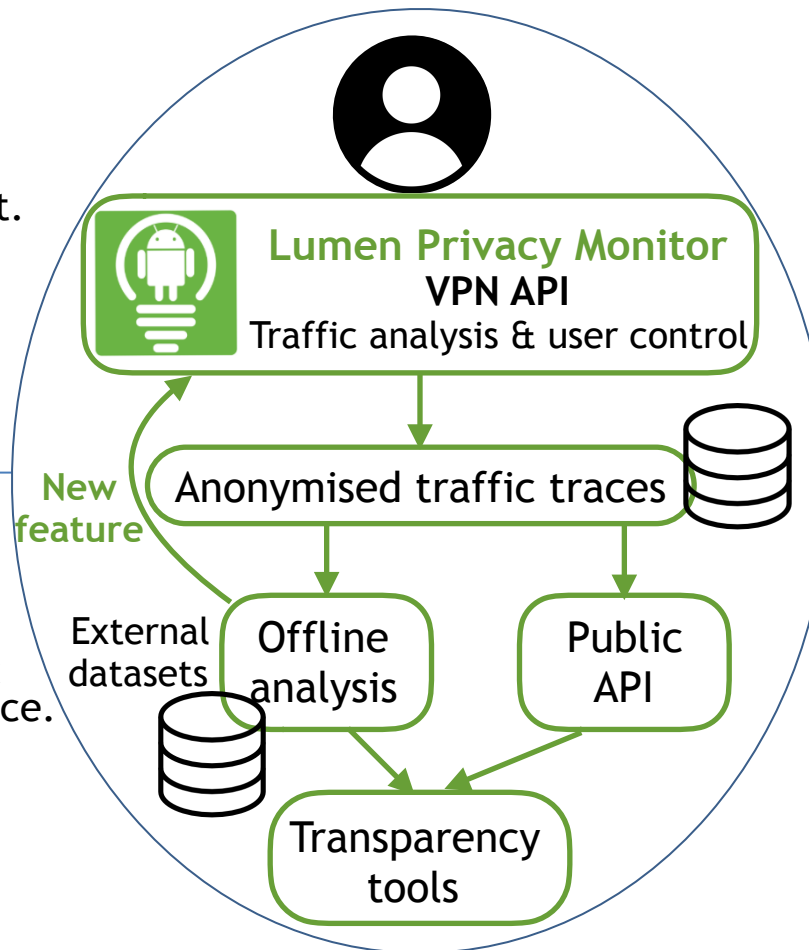
# Lumen: Fine-grained Visibility and Control of Mobile Traffic in User-Space

## Challenge:

- Gaining insight into hidden activities of mobile apps is difficult.
- None of the available methods provide comprehensive traces about mobile apps at scale and in the wild.

## Solution:

- Leverage VPN APIs to intercept and analyze empirically app traffic locally and in user-space.
- Crowd-source measurements: app distribution via traditional stores.



## Scientific Impact:

- Vantage point to study the mobile ecosystem (from apps to IoT devices to tracking services) in the wild with real user-stimuli
- Ability to experiment with mobile traffic.
- Accurate app traffic fingerprints.

## Broader Impact:

- Ability to improve the trustworthiness and transparency of mobile systems.
- Rich datasets for operators, regulators and researchers.

Tools and data to educate mobile users on privacy and security.