

# FRADE: Flash cRowd Attack DEfense

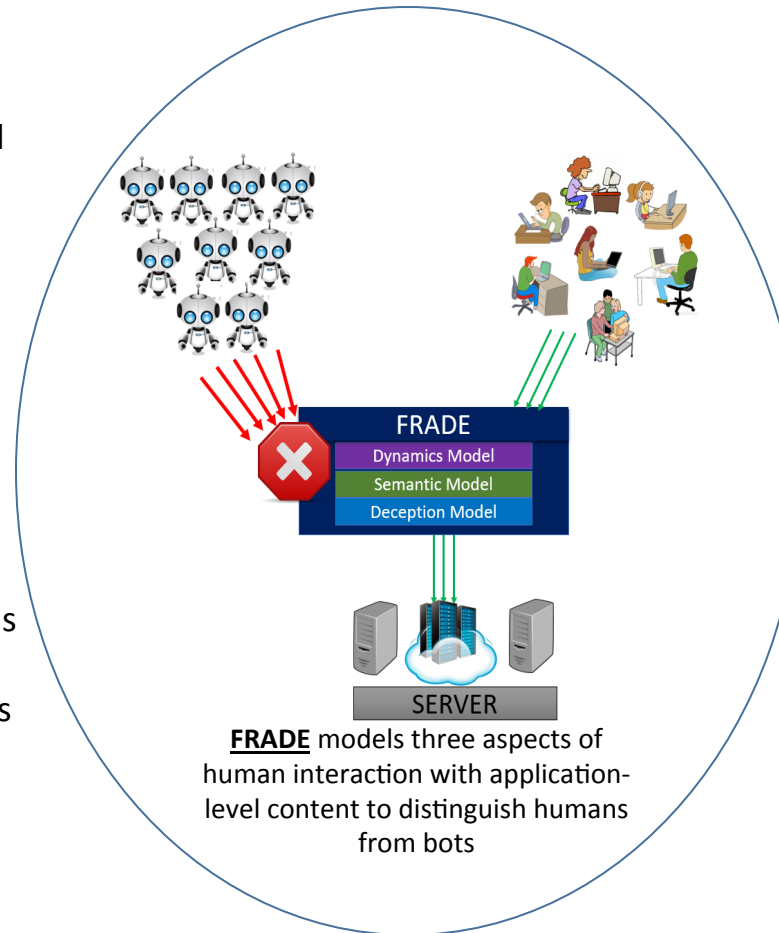


## Challenge:

- Even under a Flash-Crowd Attack (FCA), websites must serve legitimate users' requests smoothly. How to distinguish between bots and authentic users?

## Solution:

- FRADE builds three models of human behavior, and uses them to identify bots and separate them from legitimate users



## Scientific Impact:

- The first effective defense against application-level DDoS; application and OS agnostic
- FRADE's human behavior models can be used for bot detection in other application, e.g., for identifying click fraud

## Broader Impact:

- Today all online applications are vulnerable to FCA. FRADE's effective and efficient defenses against FCA significantly improve security of online services
- FRADE is implemented as an extension of popular open-source platforms, and is released as open source