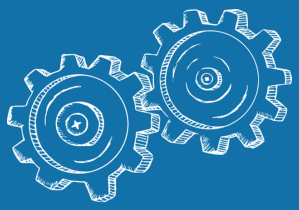

# SnailLoad Enhancement

Advisor: **Stefan Gast**

## Motivation

SnailLoad enables website and video fingerprinting attacks from just a TCP connection, without an attacker-in-the-middle or attacker controlled code on the victim machine. For this, an attacker measures the round-trip times of TCP segments, using the timing of TCP ACKs.

In this thesis, you will investigate multiple ways (in consultation with your advisor) to enhance the attack. This topic is rather broad and can go into multiple directions – just feel free to ask if you want to know more.

## Goals and Tasks

- Get familiar with various network protocols and the SnailLoad attack
- Analyze network protocols and captured traffic
- Implement an enhanced variant of the attack and evaluate it

## Literature


- S. Gast et al.
  SnailLoad: Exploiting Remote Network Latency Measurements without JavaScript
  USENIX Security
  https://www.usenix.org/conference/usenixsecurity24/presentation/gast
- Internet Engineering Task Force
  RFC 9293: Transmission Control Protocol (TCP)
  2022
  https://datatracker.ietf.org/doc/html/rfc9293


## Courses & Deliverables

- ☑ **Introduction to Scientific Working**
  Short report on background
  Short presentation
- ☑ **Bachelor Project**
  Project code and documentation
- ☑ **Bachelor's Thesis**
  Project code
  Thesis
  Final presentation

## Recommended if you're studying

☑ CS ☑ ICE ☑ SEM

## Prerequisites

- basic knowledge of TCP
- Programming (C, Python)

## Advisor Contact

stefan.gast@tugraz.at