# Packet Generation of SIP Traffic using GANs

Technical and Practical Aspects: Meeting n°1

For full list of references visit: https://bit.ly/3jad5He

(Amar Meddahi 2021)

# Outline

- Status of the implementation
- Dataset
  - Data Acquisition
  - Data Preprocessing
- Create an image dataset
  - Encoder
- Q&A

For full list of references visit: https://bit.ly/3jad5He

(Amar Meddahi 2021)

# Status of the implementation

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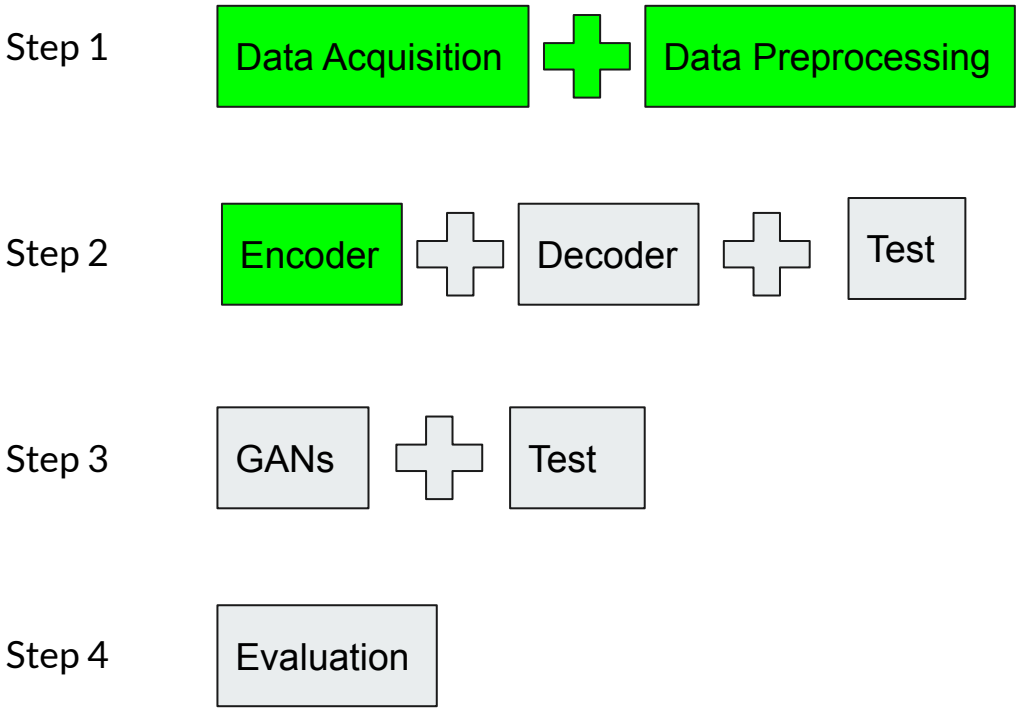
# Overview

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# Dataset

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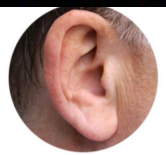
# Data Acquisition

SIPp

SIP Generator [1]

*>> sipp **-nr** uac @D*



TCPDUMP

Capture

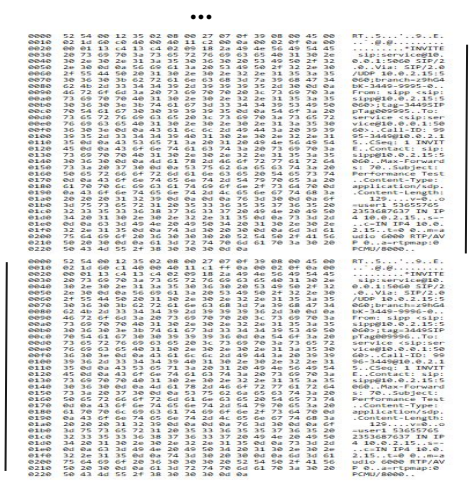
Packet Analyzer [2]

dump.pcap

WIRESHARK

Packet Analyzer bis [3]

**Export Packet Bytes**



INVITE n°k (I_k)

I_k+1

dataset.txt (ETH + IP + UDP + SIP)

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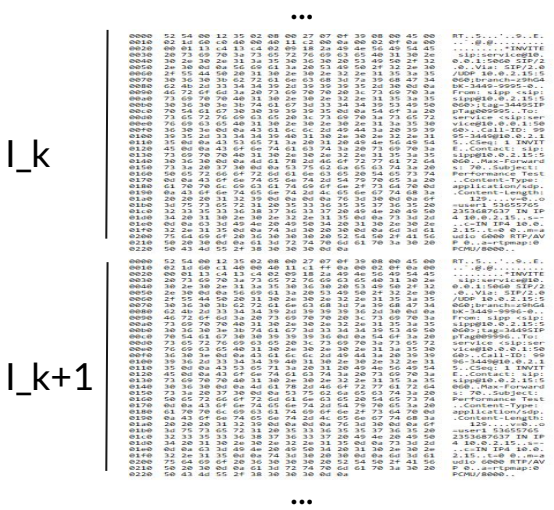
# Data Preprocessing

dataset.txt (ETH + IP + UDP + SIP)




txt_to_matrix.py

| | | |
|---|---|---|
| | 5 | 6 |
| | 4 | 4 |
| | ... | ... |
| | 12 | 12 |
| ... ... | 4 | 6 ... |
| | 7 | 0 |
| | 0 | 0 |
| | 0 | 0 |
| | I_k | I_k+1 |

→ Bytes from the I_k+1 packet that were converted from hex string to hex dec value and put into a vector

→ Padding to fit the size (a) of the desired images

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# Create an image dataset

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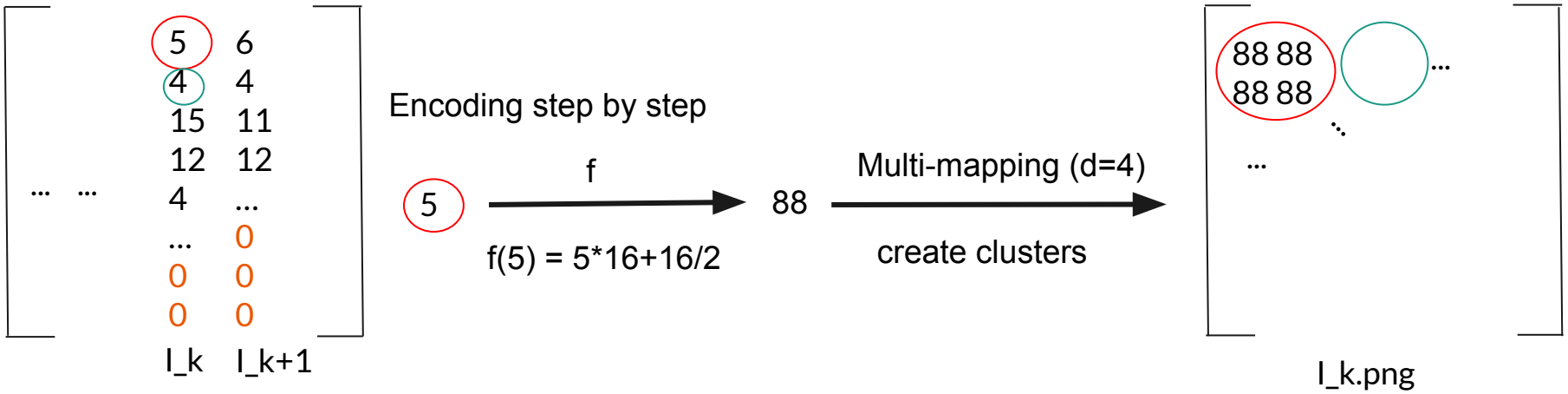
# Encoder



I_k.png

I_k+1.png

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# Q&A

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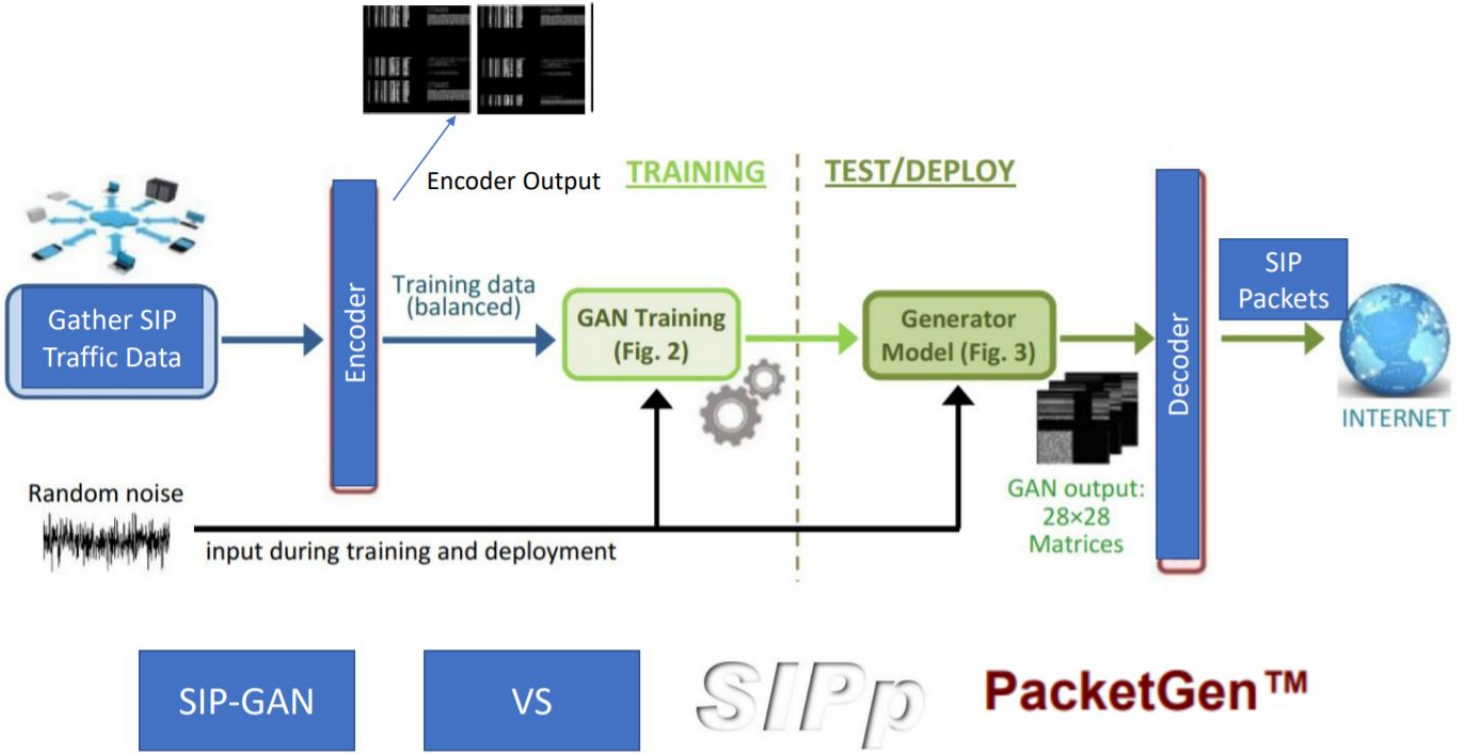
# Appendix 1: SIP-GAN

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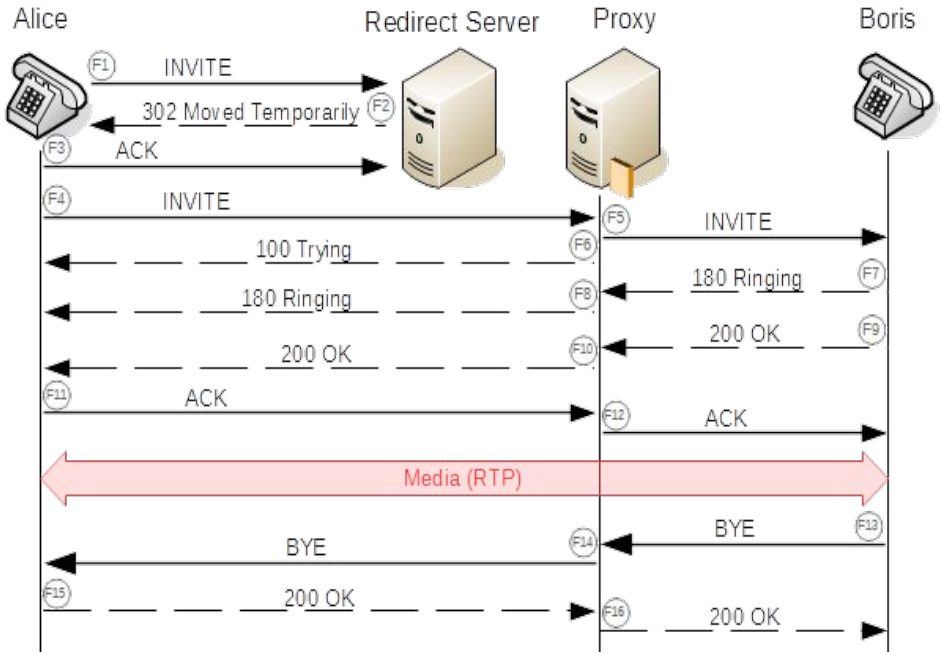
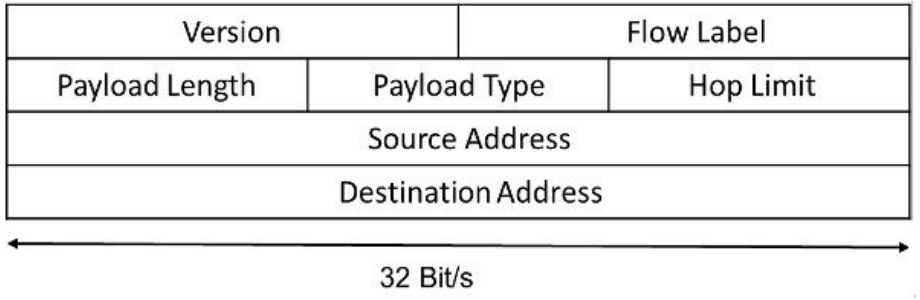
# Appendix 2: SIP Protocol




Establishment of a session




SIP Header

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