TLP WHITE

CoRI&IN 2020

TSURUGI Linux

Giovanni Rattaro

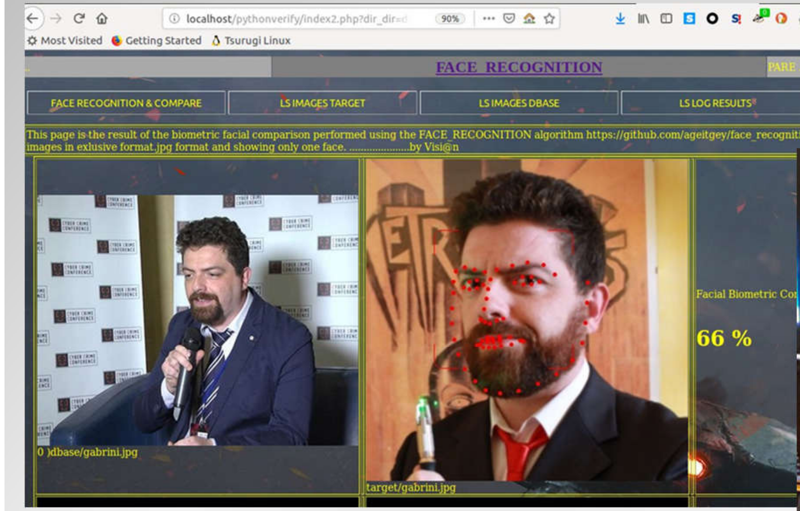
tsurugi_linux

$WHOAMI

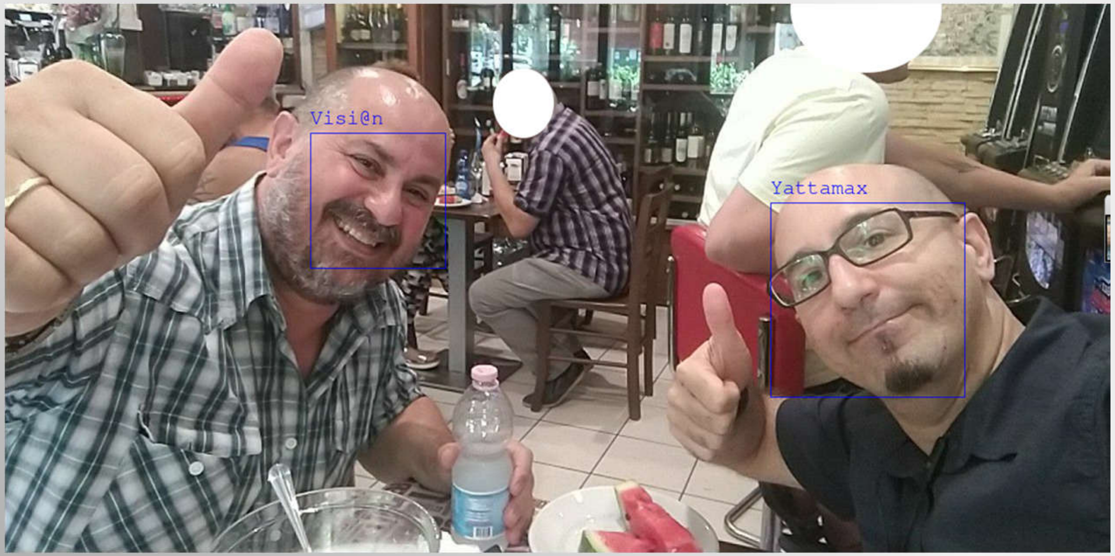
GIOVANNI 'sug4r' RATTARO

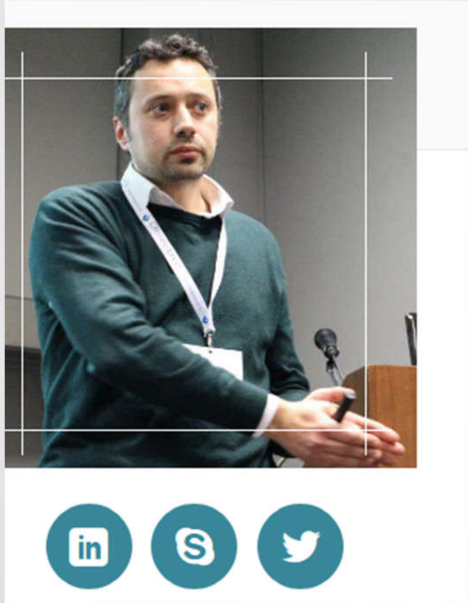
- IT SECURITY CONSULTANT @ OPEN MINDED
- Italian staff member old <<back|track Linux project
- Ex developer DEFT Linux
- Passionate DFIR instructor
- TSURUGI Linux core developer and project team leader

The team



This page is the result of the biometric facial comparison performed using the FACE_RECOGNITION algorithm https://github.com/ageitgey/face_recognition/blob/master/LICENSE. For comparing images in exlusive format.jpg format and showing only one face. ....by Visi@n





tsurugi-linux.org

Some conferences

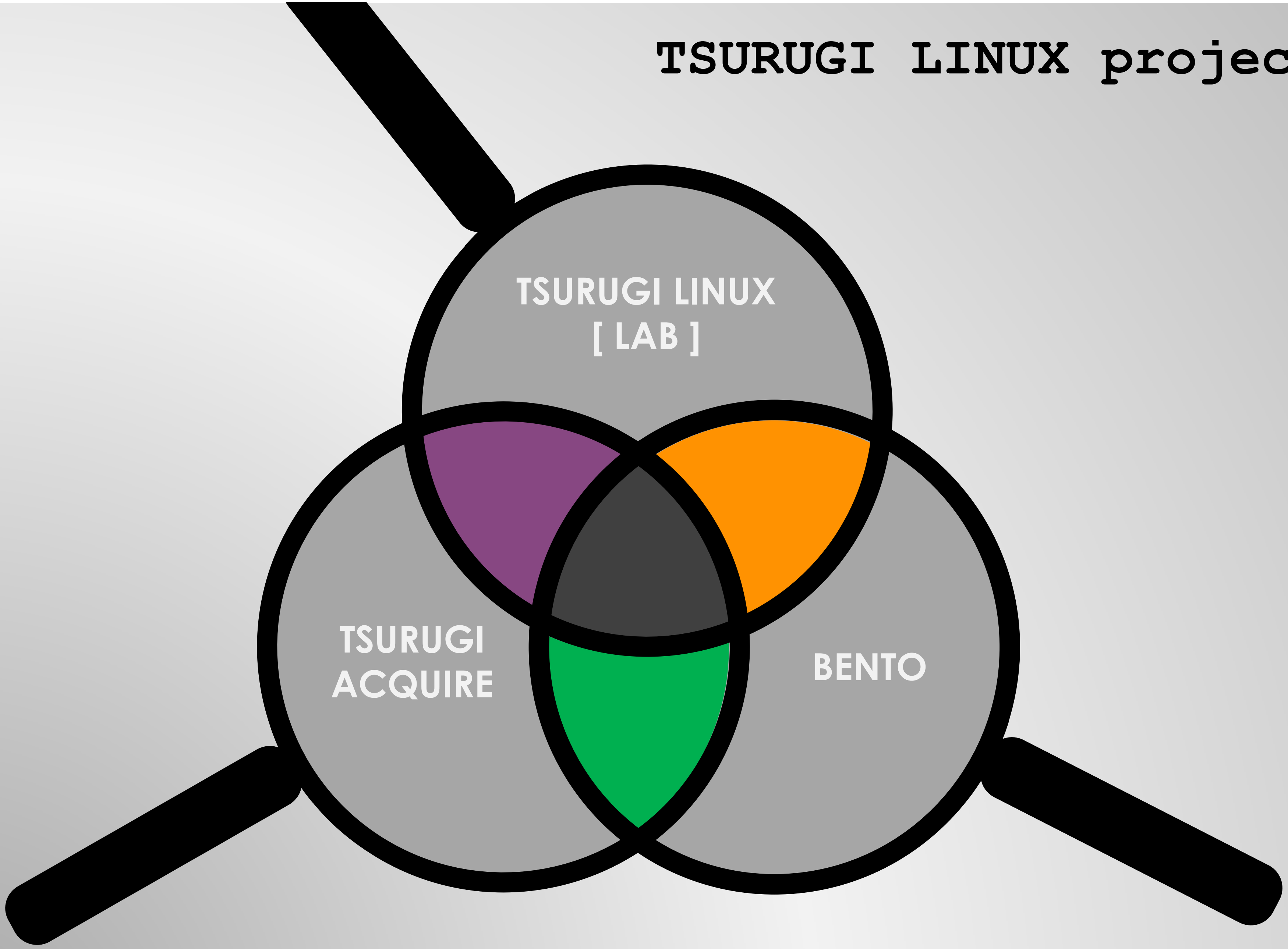
USA & Europe

TSURUGI LINUX

OPEN SOURCE PROJECT

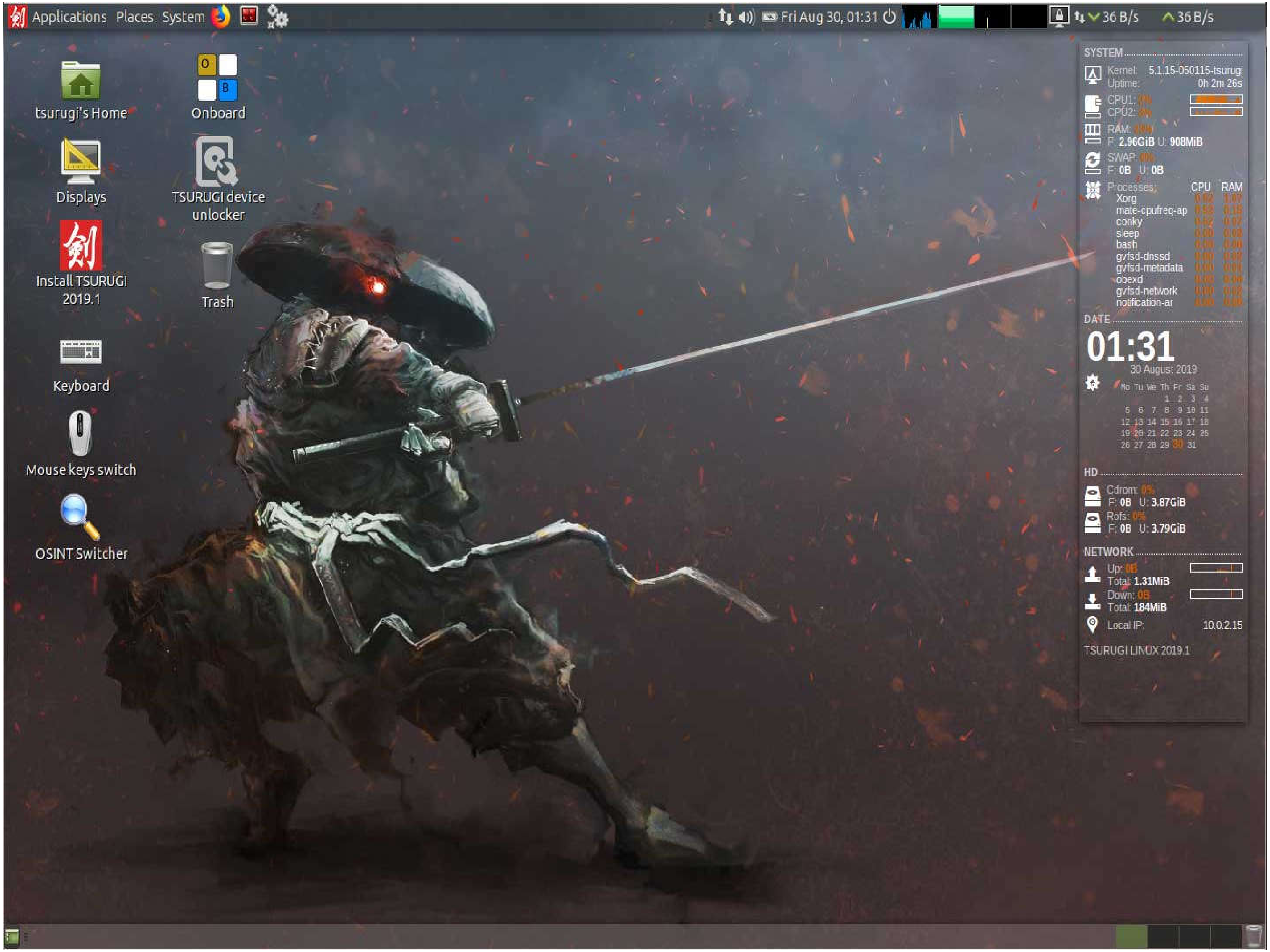
tsurugi-linux.org

TSURUGI LINUX project



TSURUGI LINUX [LAB]

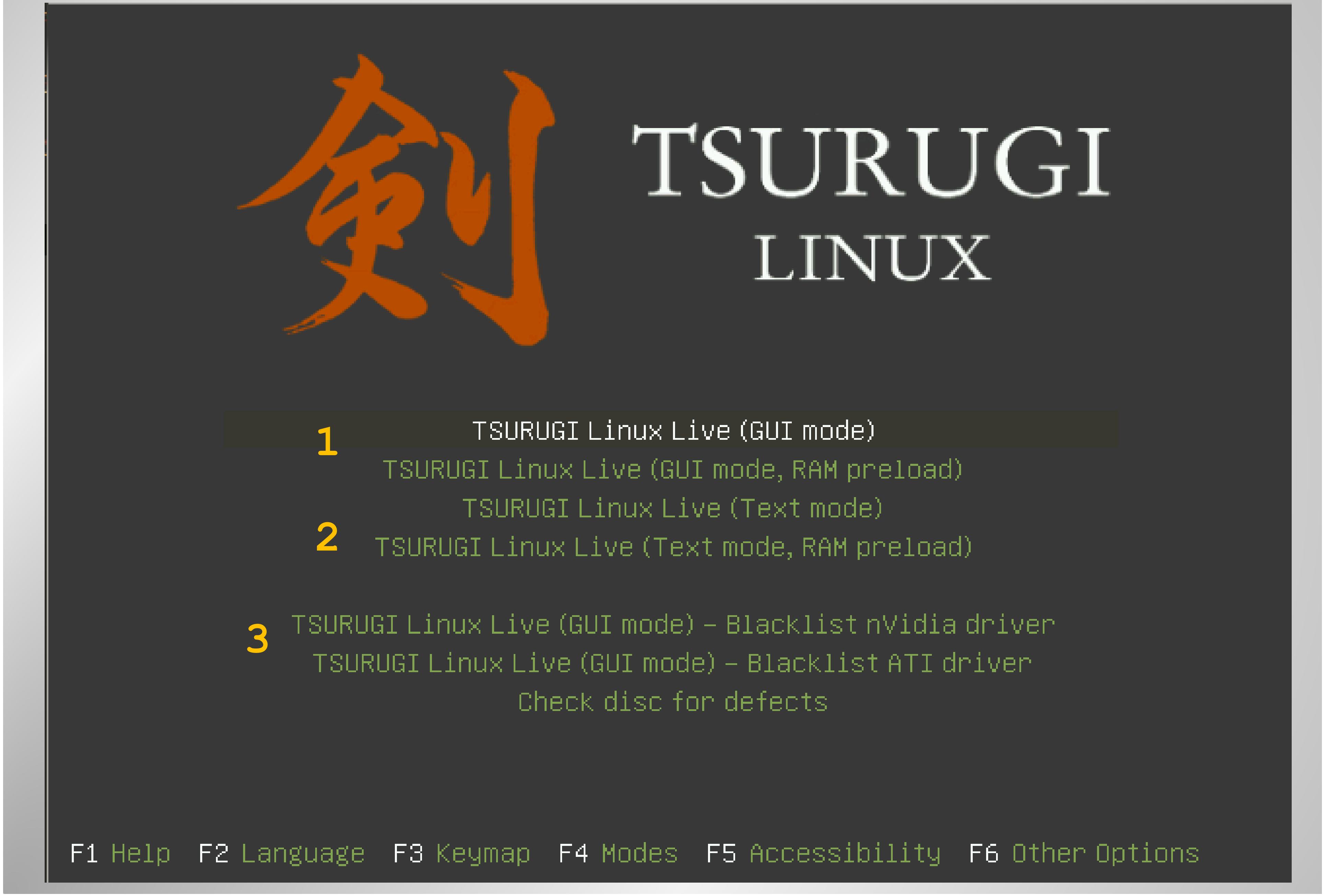
- 64 bits Linux distribution
- Based on UBUNTU LTS version
- Patched kernel 5.4.2
- DFIR
- OSINT / Malware Analysis / Computer vision
- For educational and/or professional use



```
SYSTEM
Kernel:    5.1.15-050115-tsurugi
Uptime:               0h 2m 26s
CPU1: 0%
CPU2: 0%
RAM: [illegible]
F: 2.96GiB U: 908MiB
SWAP: 0%
F: 0B  U: 0B
Processes:             CPU    RAM
  Xorg                 0.02   [illegible]
  mate-cpufreq-ap      0.02   0.15
  conky                0.02   0.07
  sleep                0.00   0.02
  bash                 0.00   0.08
  gvfsd-dnssd          0.00   [illegible]
  gvfsd-metadata       0.00   [illegible]
  obexd                0.00   0.04
  gvfsd-network        0.00   0.02
  notification-ar      0.00   0.08
DATE
01:31
30 August 2019
Mo Tu We Th Fr Sa Su
          1  2  3  4
 5  6  7  8  9 10 11
12 13 14 15 16 17 18
19 20 21 22 23 24 25
26 27 28 29 30 31
HD
Cdrom: 0%
F: 0B  U: 3.87GiB
Rofs: 0%
F: 0B  U: 3.79GiB
NETWORK
Up: 0B
Total: 1.31MiB
Down: 0B
Total: 184MiB
Local IP:            10.0.2.15
TSURUGI LINUX 2019.1
```

SPECIALS FEATURES?

Custom Boot options



TSURUGI Linux Live (GUI mode)

TSURUGI Linux Live (GUI mode, RAM preload)

TSURUGI Linux Live (Text mode)

TSURUGI Linux Live (Text mode, RAM preload)

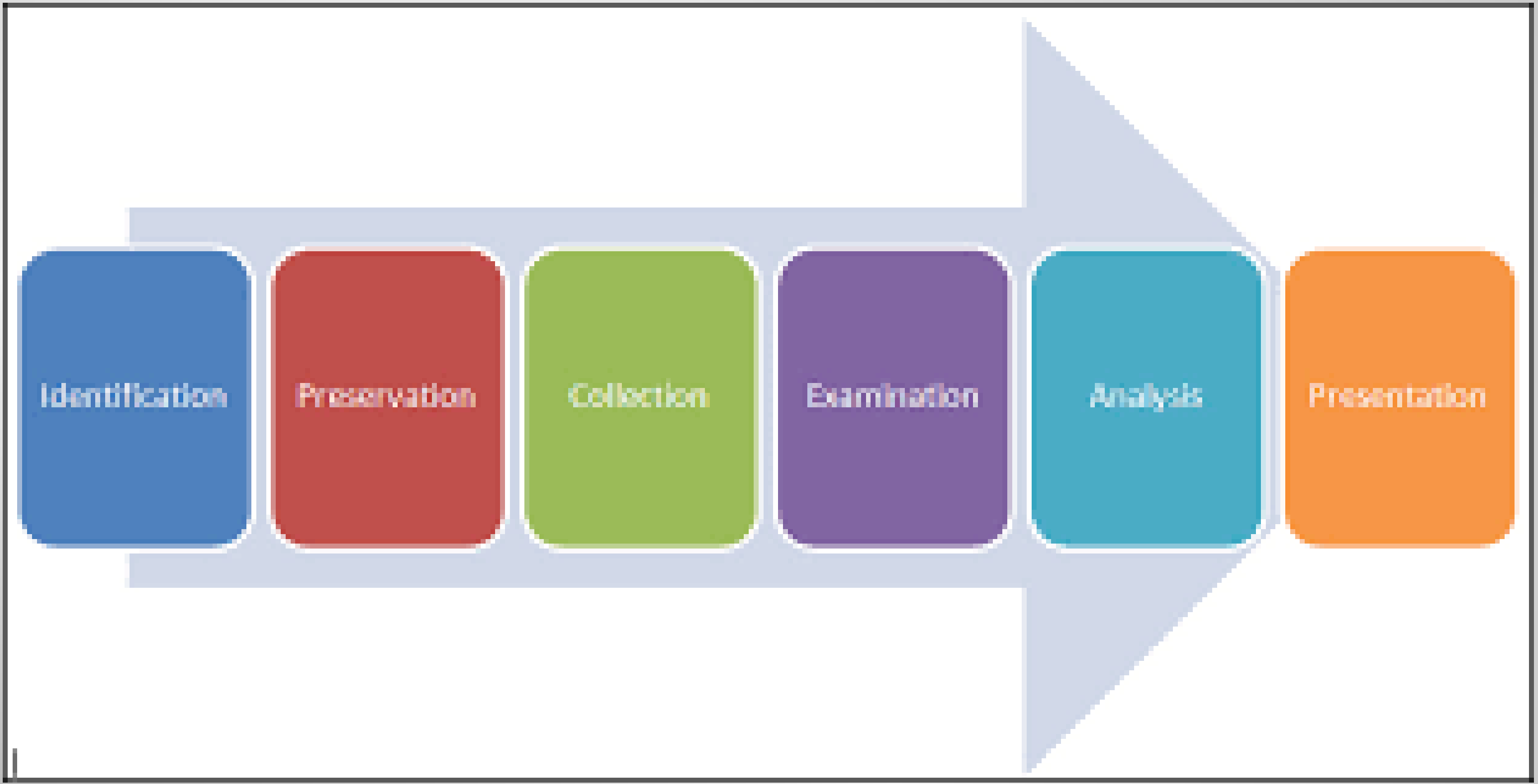
TSURUGI Linux Live (GUI mode) - Blacklist nVidia driver

TSURUGI Linux Live (GUI mode) - Blacklist ATI driver

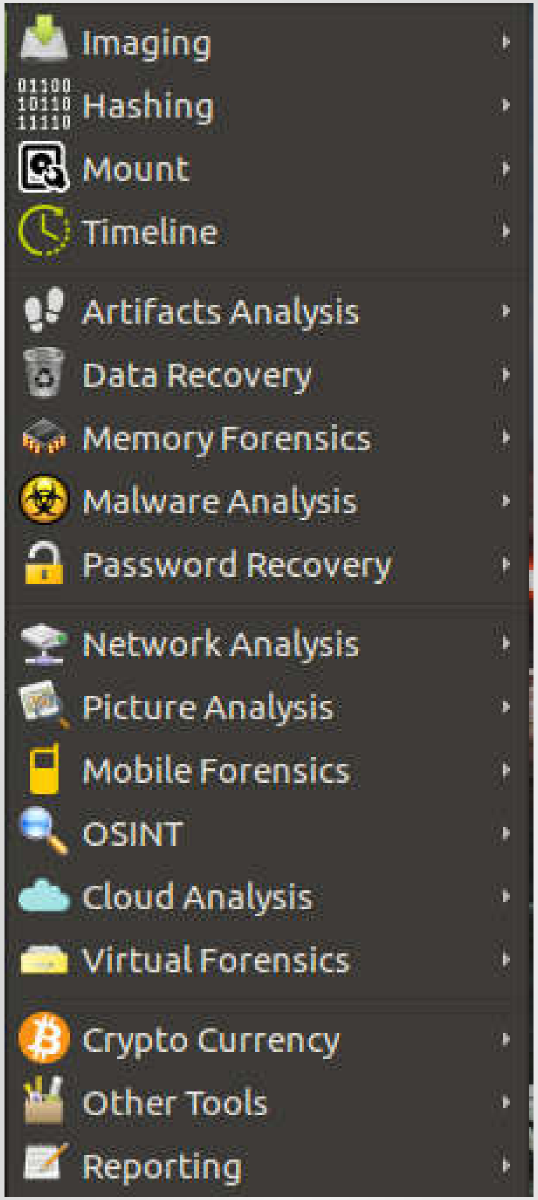
Check disc for defects

F1 Help F2 Language F3 Keymap F4 Modes F5 Accessibility F6 Other Options

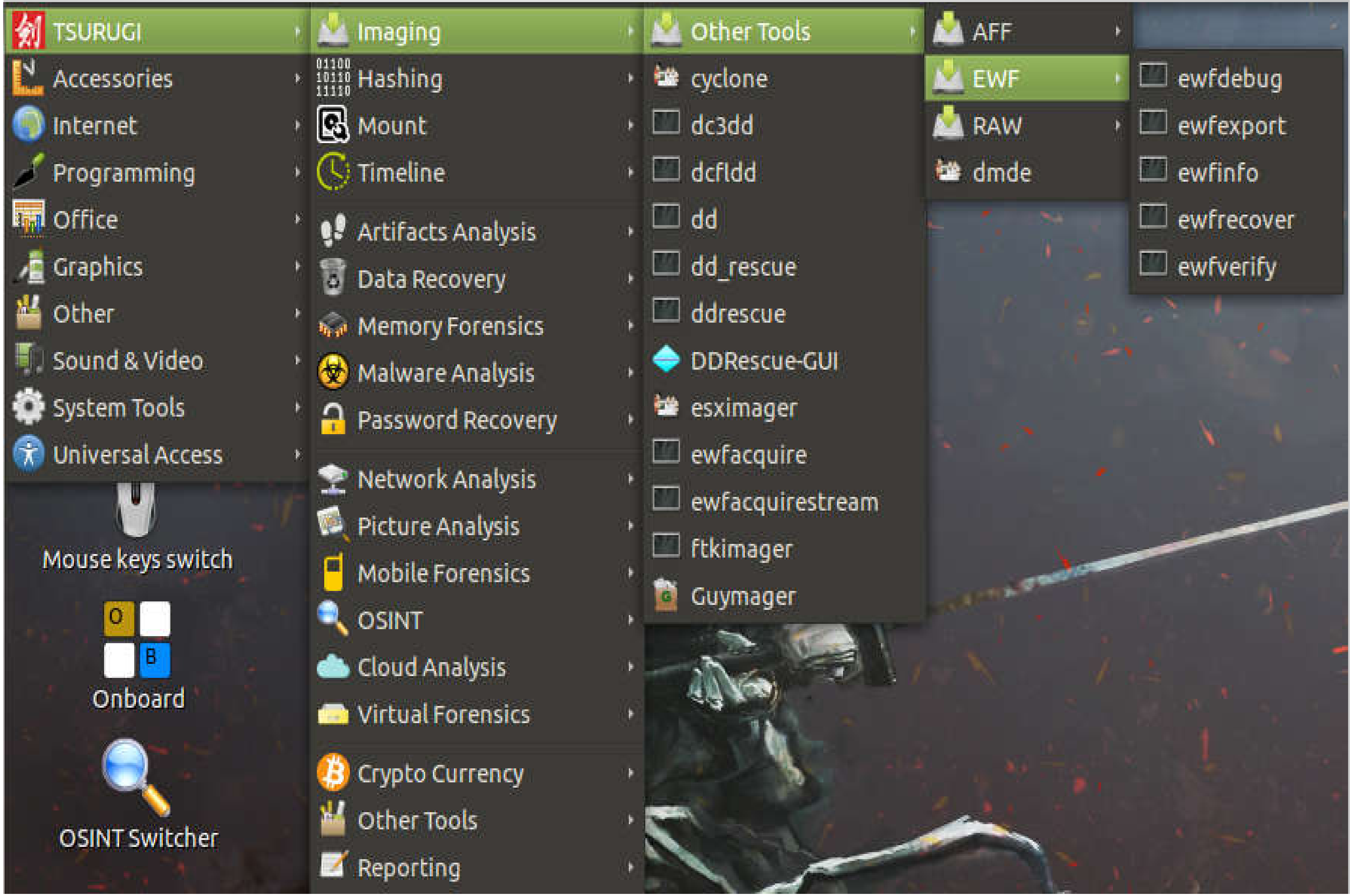
Our idea based on investigation 6 phases



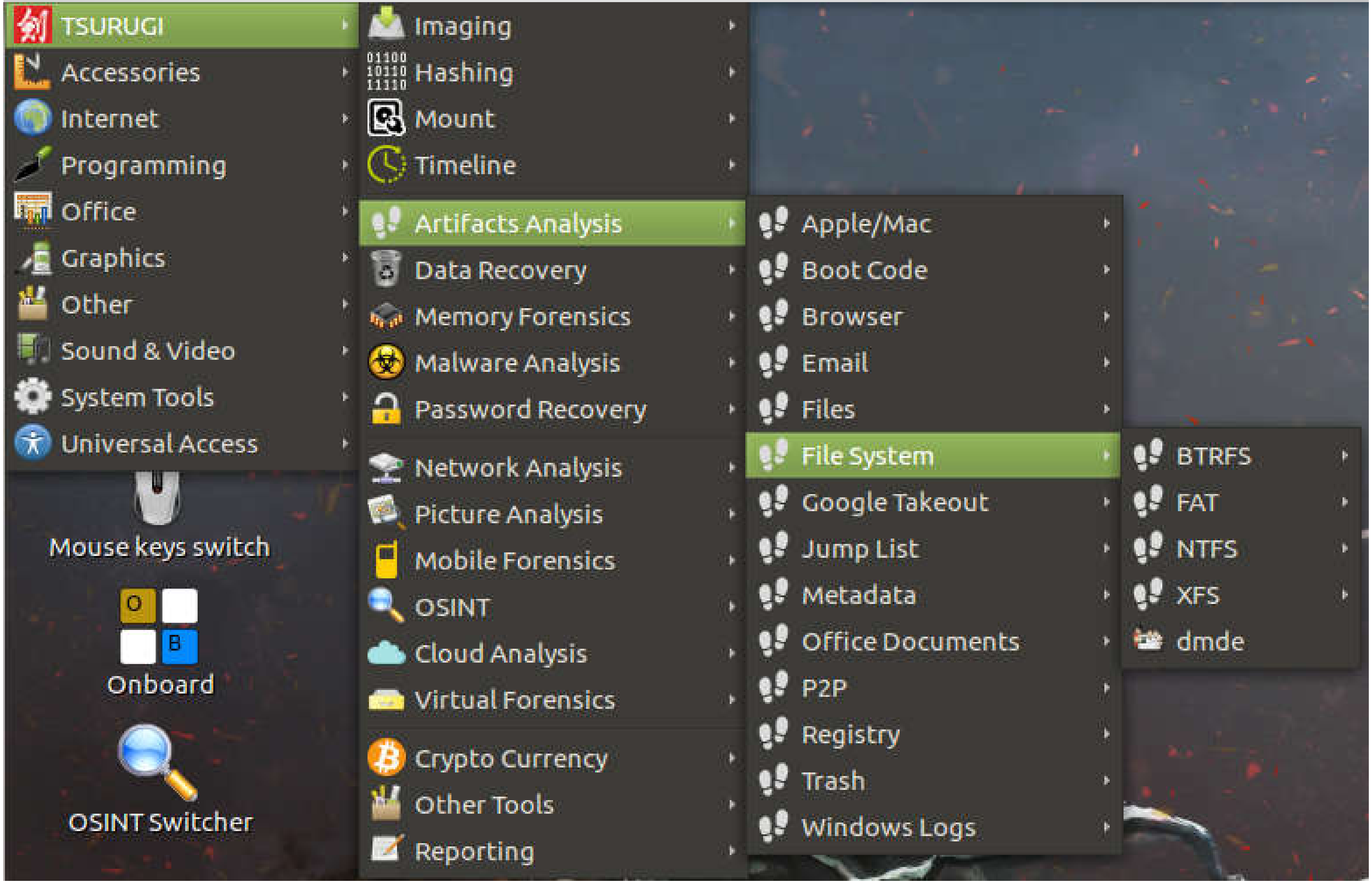
TSURUGI Linux main menu & tools classification



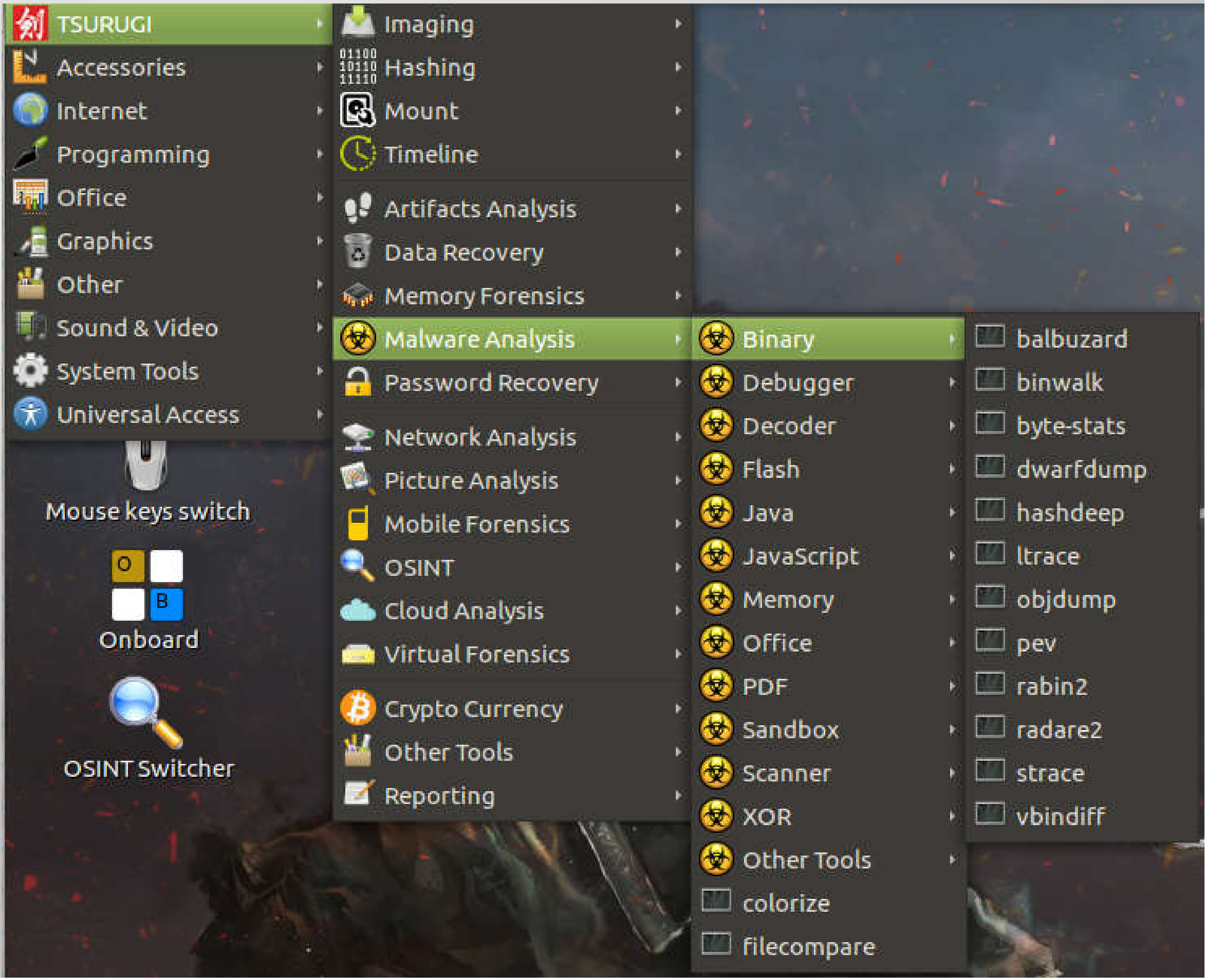
Imaging menu



Artifacts analysis

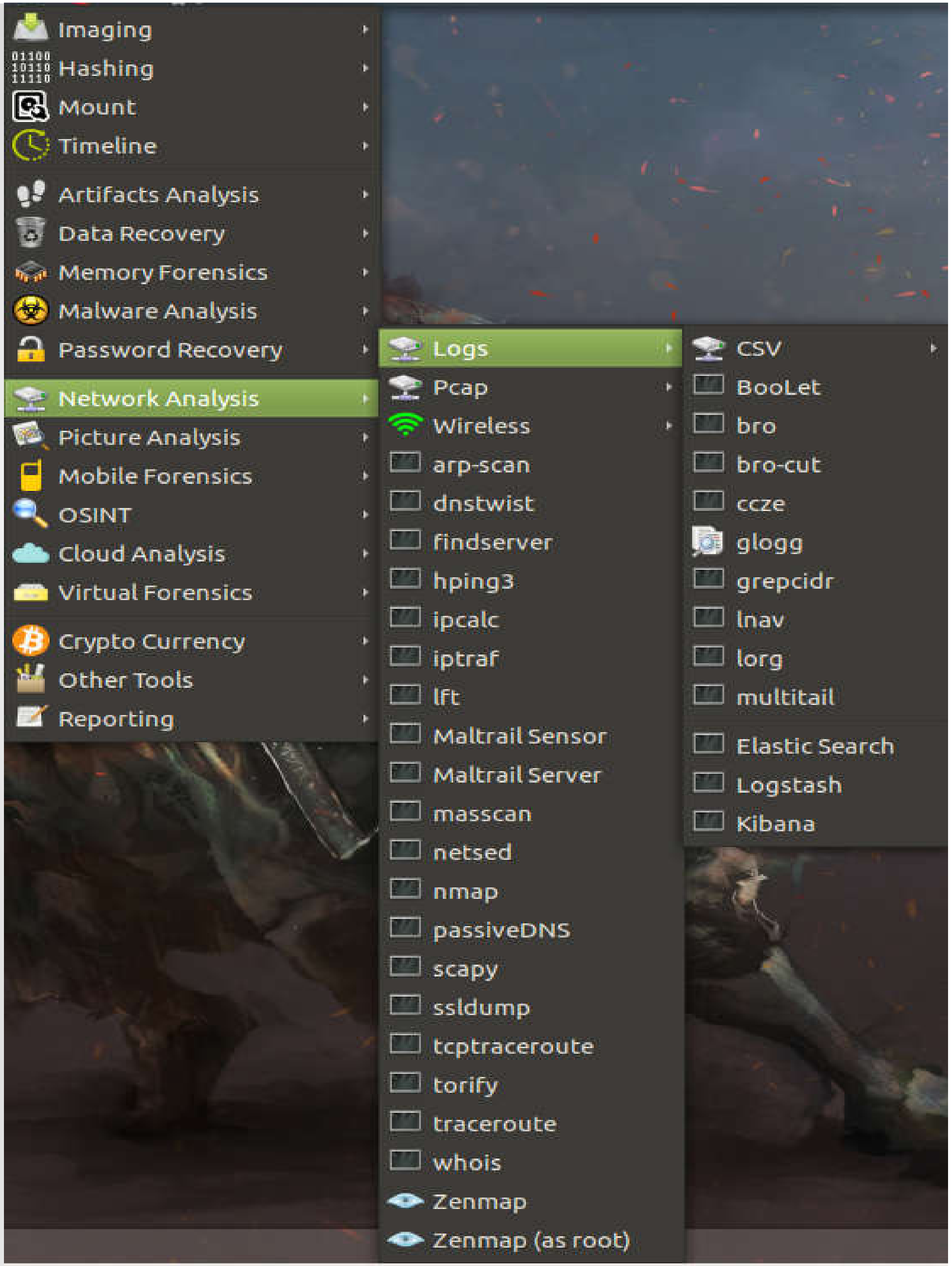


Malware analysis

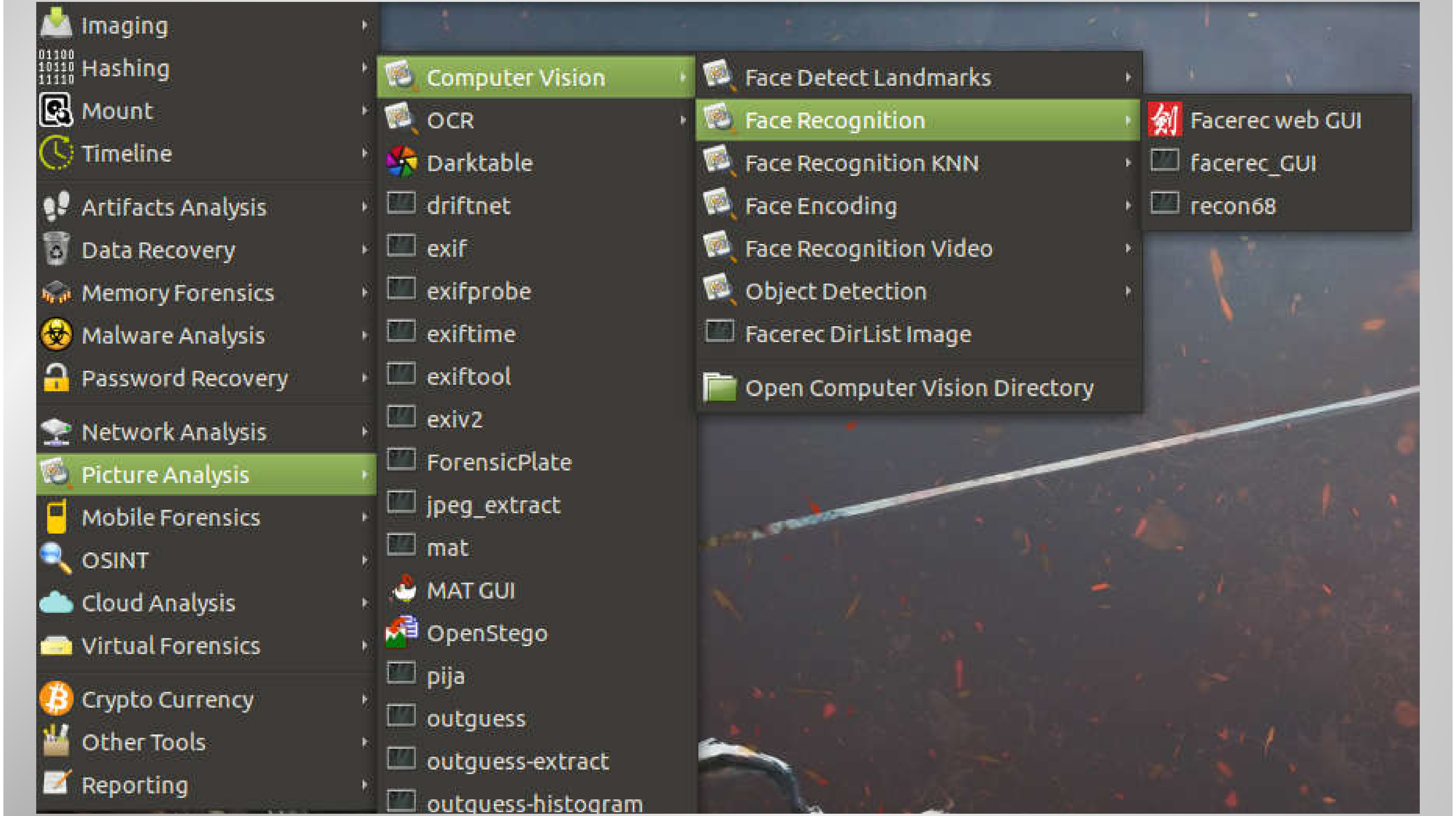


Network analysis

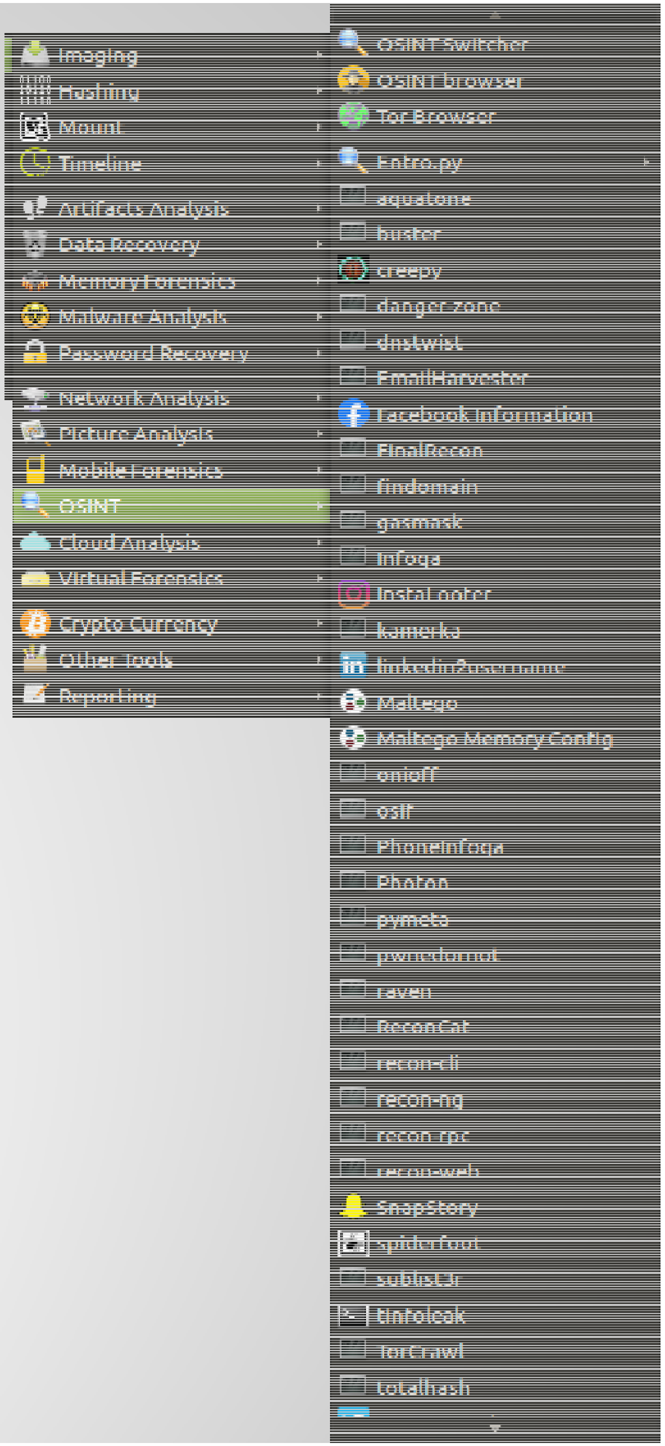
劍



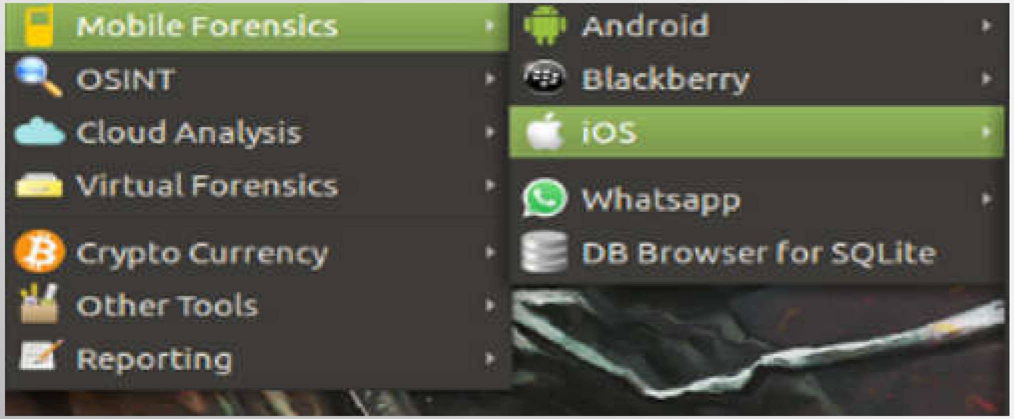
Computer vision



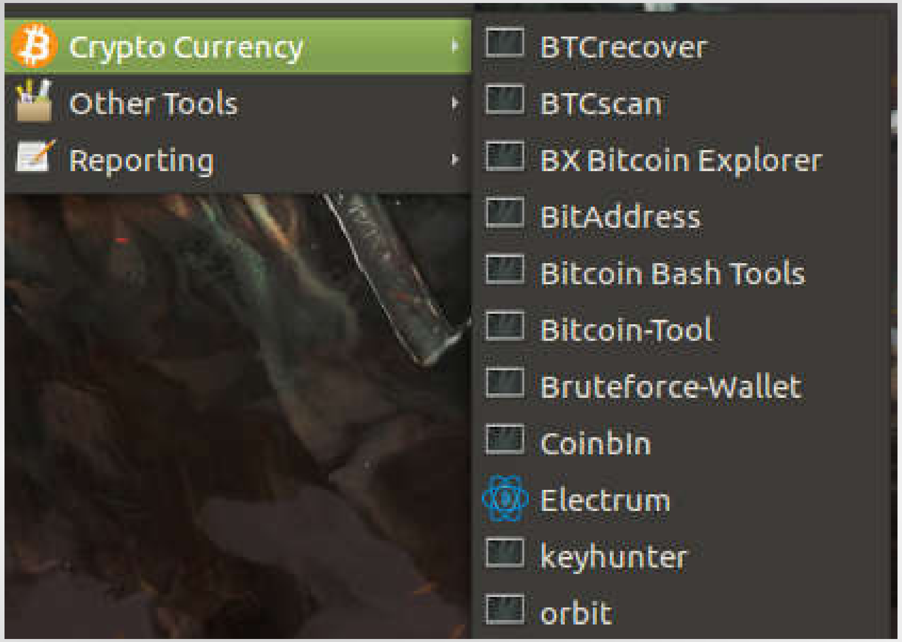
OSINT



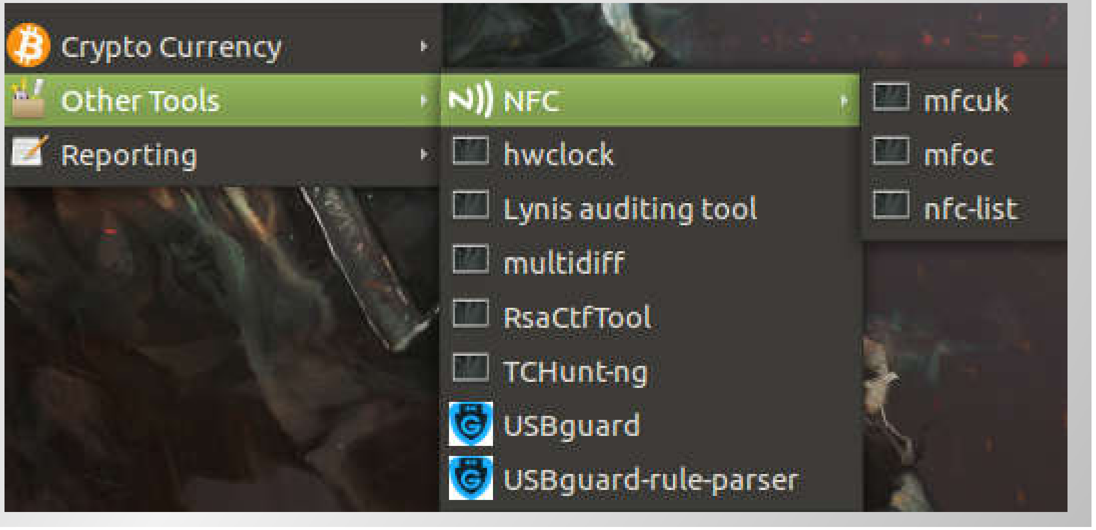
Mobile forensics



Crypto currency



Other tools



KERNEL WRITE BLOCKER

KERNEL WRITE BLOCKER

All connected devices by default are in

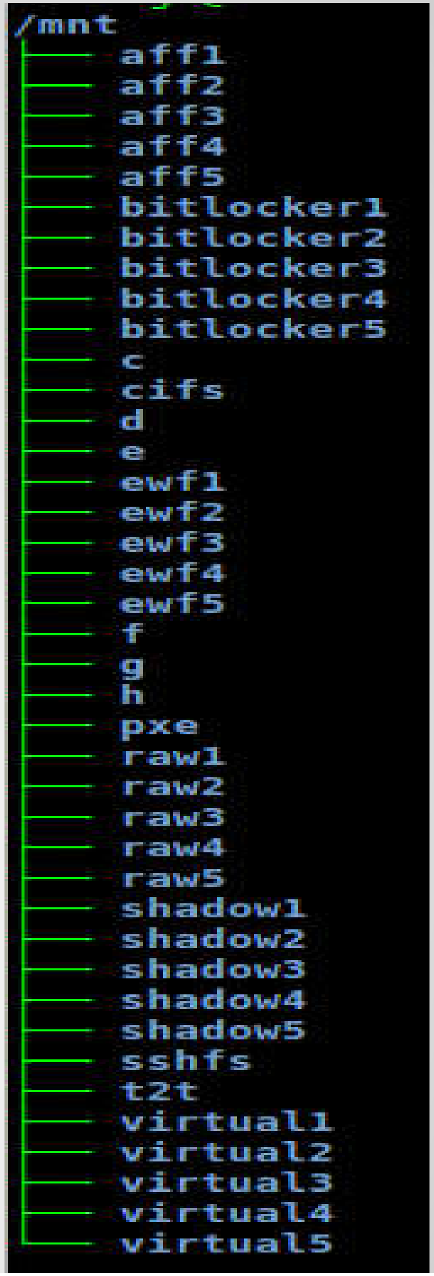
READ ONLY mode

tsurugi-linux.org

KERNEL WRITE BLOCKER

WHY A DEVICE WRITE BLOCKER AT KERNEL LEVEL?

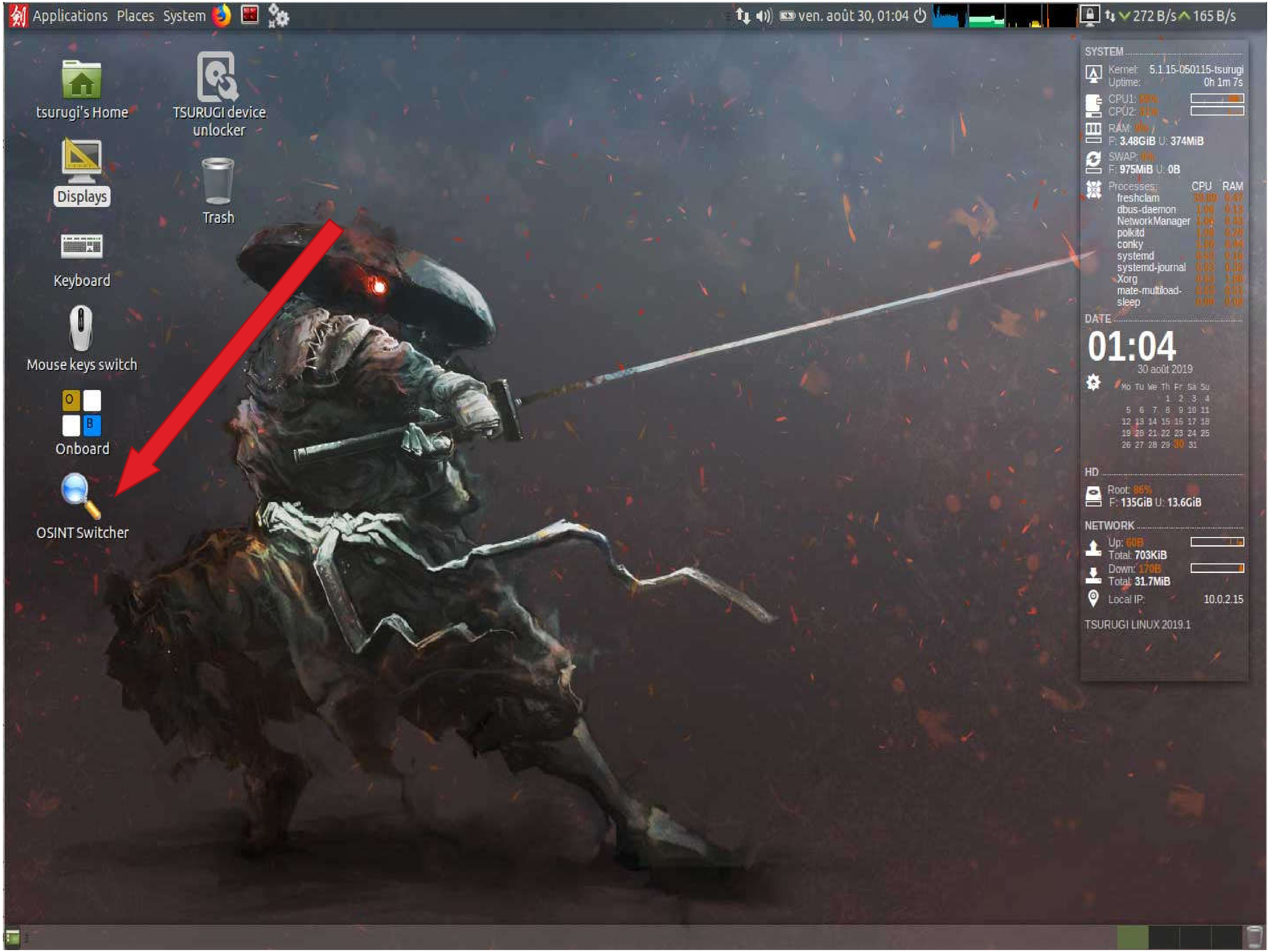
The /mnt DIRECTORY



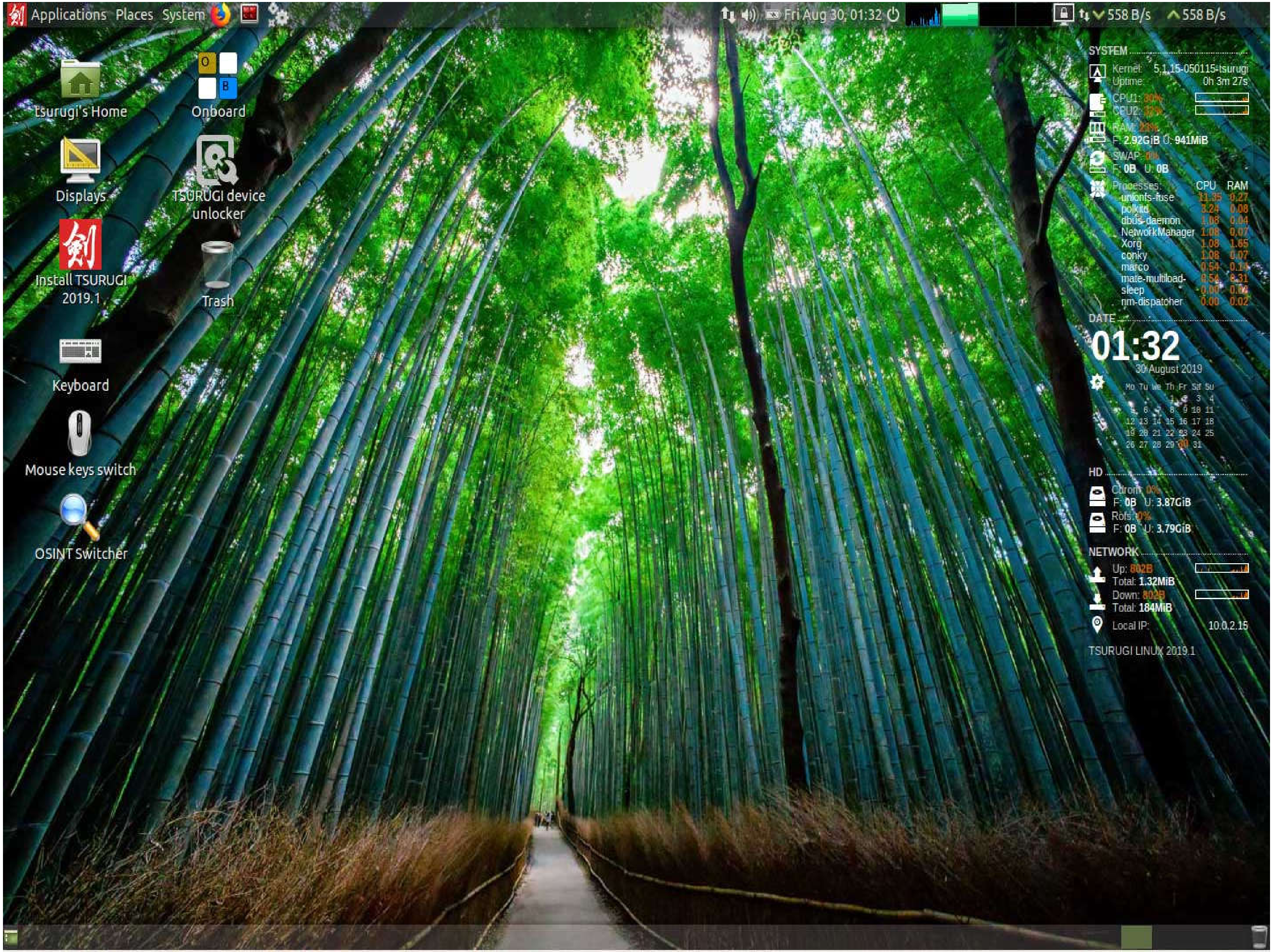
```
/mnt
├── aff1
├── aff2
├── aff3
├── aff4
├── aff5
├── bitlocker1
├── bitlocker2
├── bitlocker3
├── bitlocker4
├── bitlocker5
├── c
├── cifs
├── d
├── e
├── ewf1
├── ewf2
├── ewf3
├── ewf4
├── ewf5
├── f
├── g
├── h
├── pxe
├── raw1
├── raw2
├── raw3
├── raw4
├── raw5
├── shadow1
├── shadow2
├── shadow3
├── shadow4
├── shadow5
├── sshfs
├── t2t
├── virtual1
├── virtual2
├── virtual3
├── virtual4
└── virtual5
```

tsurugi-linux.org

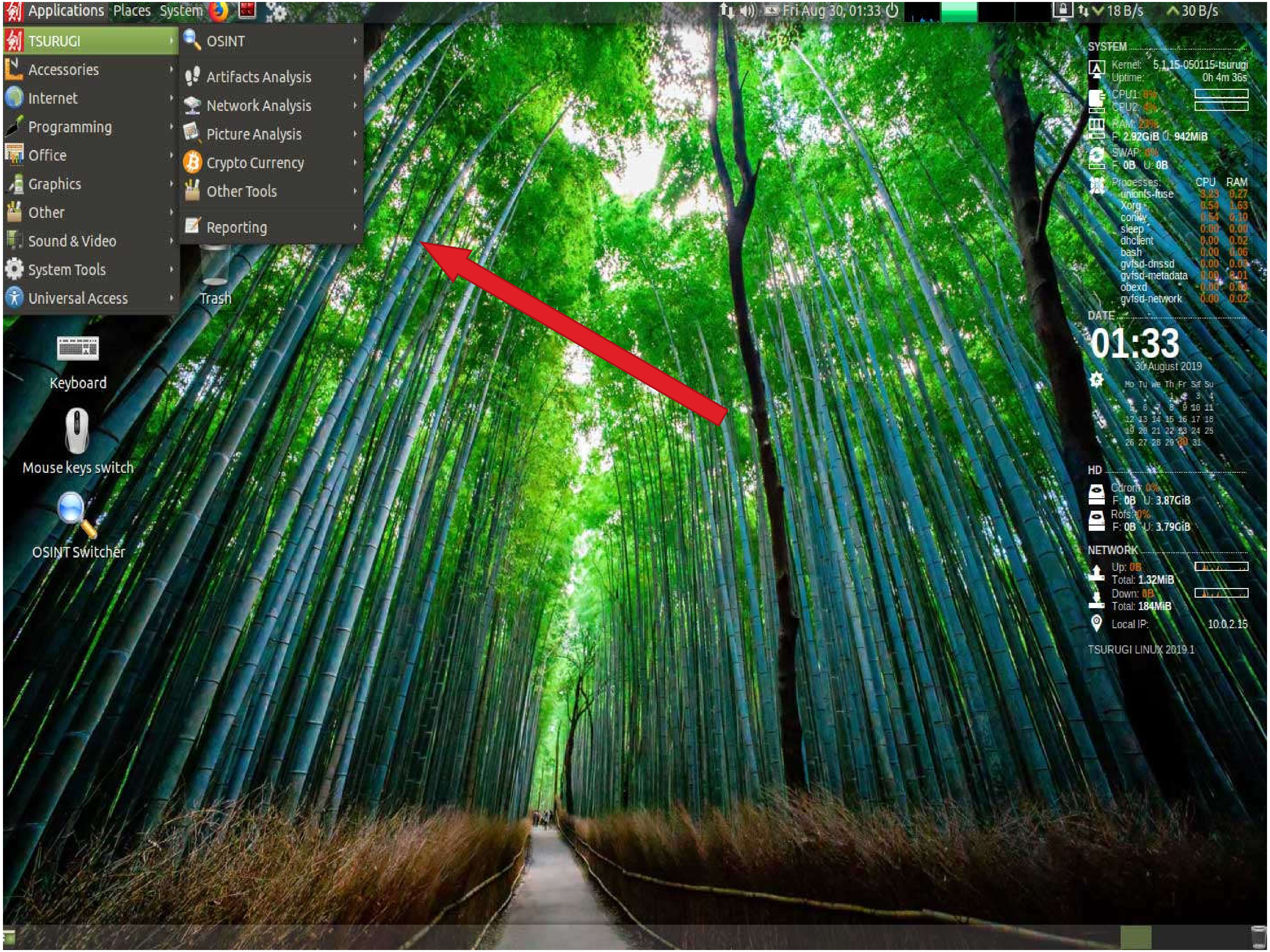
OSINT PROFILE SWITCHER



```
SYSTEM
Kernel:    5.1.15-050115-tsurugi
Uptime:                 0h 1m 7s
CPU1: [illegible]
CPU2: [illegible]
RAM: [illegible]
F: 3.48GiB U: 374MiB
SWAP: [illegible]
F: 975MiB U: 0B
Processes:            CPU    RAM
  freshclam           [illegible] 0.47
  dbus-daemon         1.00   0.13
  NetworkManager      1.00   0.33
  polkitd             1.00   0.20
  conky               1.00   0.40
  systemd             0.40   0.16
  systemd-journal     0.03   0.32
  Xorg                0.40   1.00
  mate-multiload-     0.03   0.13
  sleep               0.00   0.00
DATE
01:04
      30 août 2019
   Mo Tu We Th Fr Sa Su
             1  2  3  4
    5  6  7  8  9 10 11
   12 13 14 15 16 17 18
   19 20 21 22 23 24 25
   26 27 28 29 30 31
HD
Root: 86%
F: 135GiB U: 13.6GiB
NETWORK
Up: 60B
Total: 703KiB
Down: 170B
Total: 31.7MiB
Local IP:             10.0.2.15
TSURUGI LINUX 2019.1
```



```
SYSTEM ..........................................
  Kernel:      5.1.15-050115-tsurugi
  Uptime:                 0h 3m 27s
  CPU1: 30%
  CPU2: 32%
  RAM: 23%
  F: 2.92GiB U: 941MiB
  SWAP: 0%
  F: 0B   U: 0B
  Processes:                 CPU    RAM
    unionfs-fuse             11.35  0.27
    polkitd                  3.24   0.08
    dbus-daemon              1.08   0.04
    NetworkManager           1.08   0.07
    Xorg                     1.08   1.65
    conky                    1.08   0.07
    marco                    0.54   0.14
    mate-multiload-          0.54   0.31
    sleep                    0.00   0.06
    nm-dispatcher            0.00   0.02
DATE ............................................
01:32
            30 August 2019
        Mo Tu We Th Fr Sa Su
                     1  2  3  4
         5  6  7  8  9 10 11
        12 13 14 15 16 17 18
        19 20 21 22 23 24 25
        26 27 28 29 30 31
HD ..............................................
  Cdrom: 0%
  F: 0B   U: 3.87GiB
  Rofs: 0%
  F: 0B   U: 3.79GiB
NETWORK .........................................
  Up: 802B
  Total: 1.32MiB
  Down: 802B
  Total: 184MiB
  Local IP:                 10.0.2.15
TSURUGI LINUX 2019.1
```



```
SYSTEM
Kernel:   5.1.15-050115-tsurugi
Uptime:              0h 4m 36s
CPU1: 0%
CPU2: 4%
RAM: 23%
F: 2.92GiB U: 942MiB
SWAP: 0%
F: 0B  U: 0B
Processes:           CPU   RAM
  unionfs-fuse       3.23  0.27
  Xorg               0.54  1.63
  conky              0.54  0.10
  sleep              0.00  0.00
  dhclient           0.00  0.02
  bash               0.00  0.06
  gvfsd-dnssd        0.00  0.03
  gvfsd-metadata     0.00  0.01
  obexd              0.00  0.04
  gvfsd-network      0.00  0.02
DATE
01:33
30 August 2019
  Mo Tu We Th Fr Sa Su
            1  2  3  4
   5  6  7  8  9 10 11
  12 13 14 15 16 17 18
  19 20 21 22 23 24 25
  26 27 28 29 30 31
HD
Cdrom: 0%
 F: 0B  U: 3.87GiB
Rofs: 0%
 F: 0B  U: 3.79GiB
NETWORK
Up: 0B
Total: 1.32MiB
Down: 0B
Total: 184MiB
Local IP:             10.0.2.15
TSURUGI LINUX 2019.1
```

WE CARE ABOUT DETAILS…

TSURUGI LINUX [LAB]

- Device automount/autoexec disabled
- System hibernation disabled
- After each session starts the defaults custom values are set
- Automatic set HI-DPI
- Mouse keys switch
- Boot cleaner script
- RAM saturation workaround

194

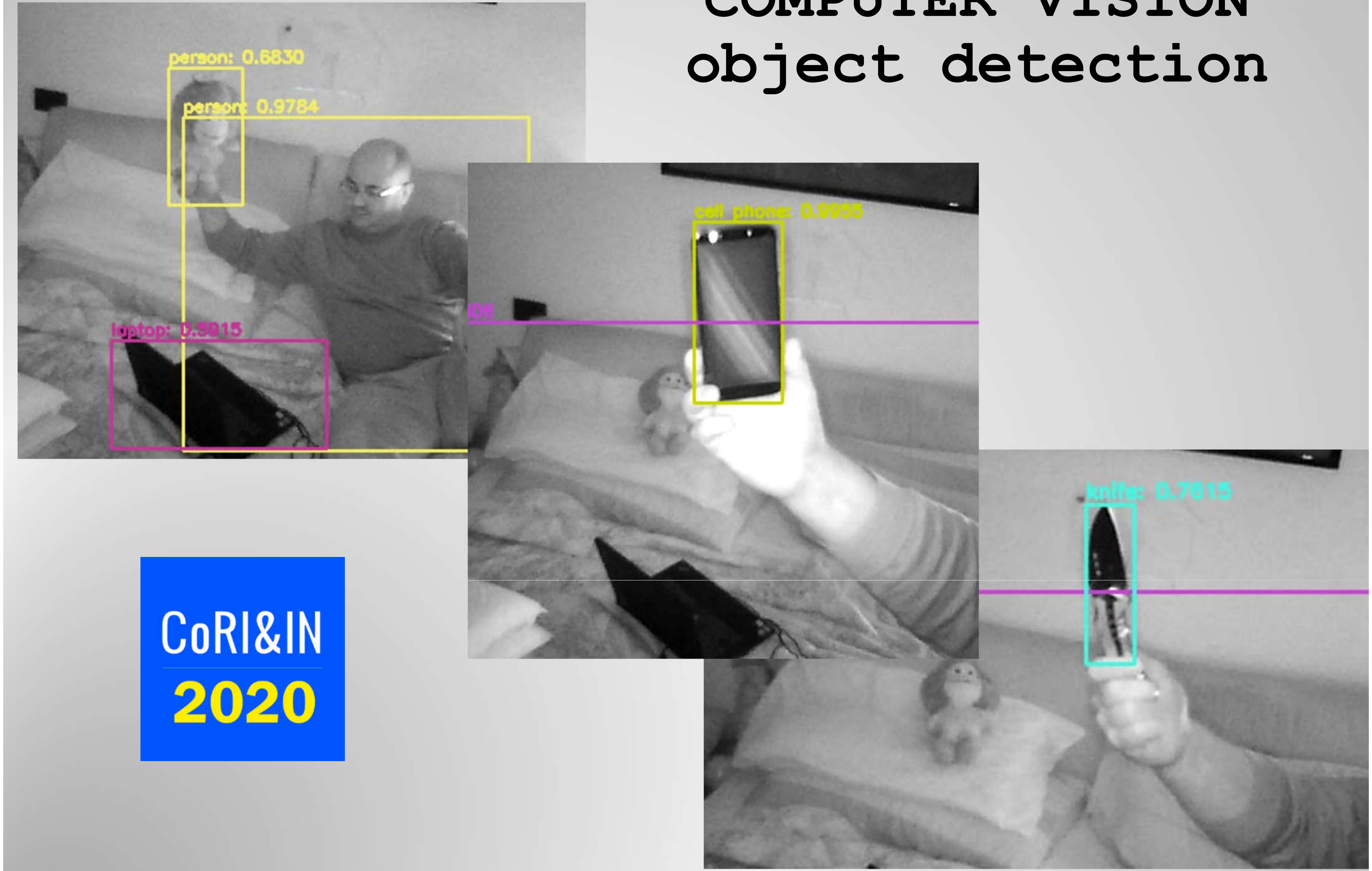
81+87+26

builds

tsurugi-linux.org

COMPUTER VISION

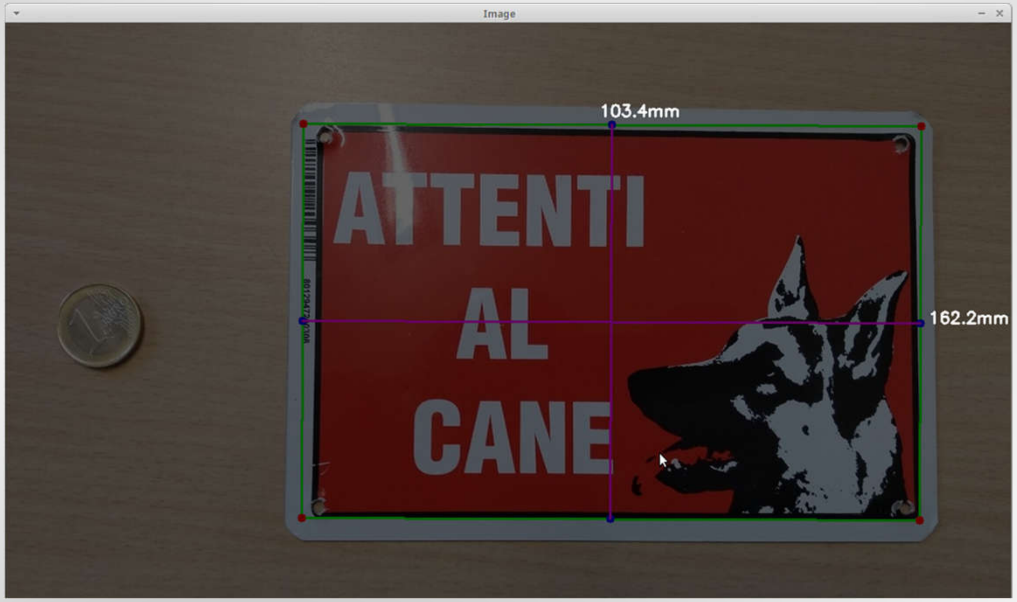
COMPUTER VISION
object detection

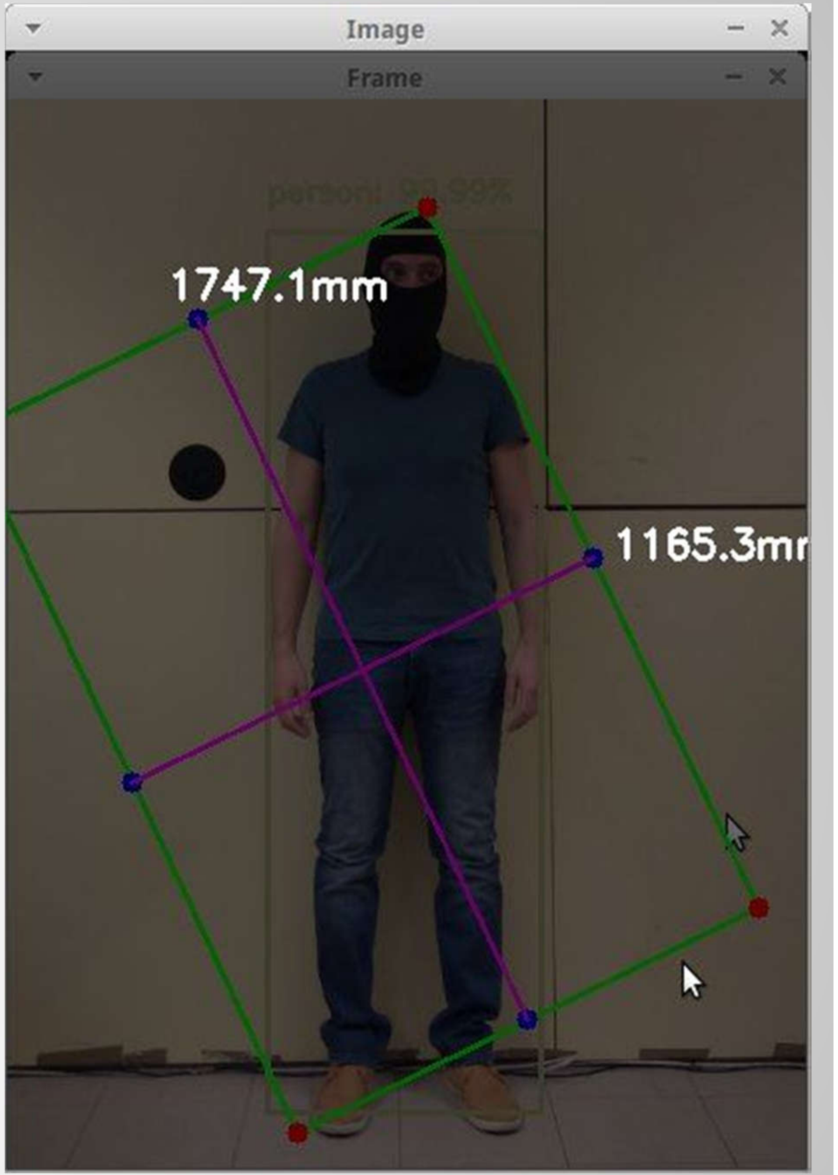


CoRI&IN
2020

tsurugi-linux.org

COMPUTER VISION
calculating sizes

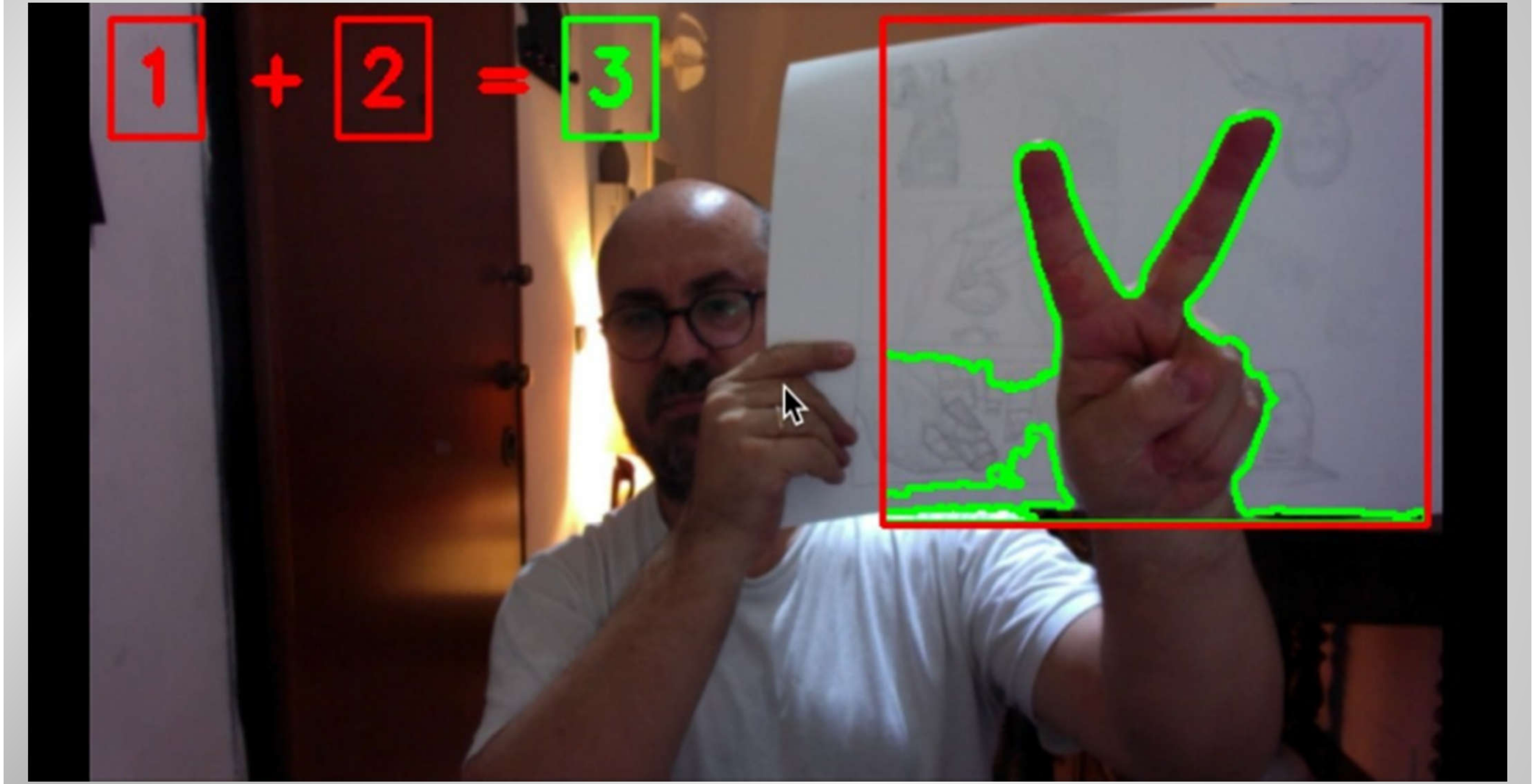




CoRI&IN
2020

tsurugi-linux.org

COMPUTER VISION: gesture detection



tsurugi-linux.org

BENTO TOOLKIT

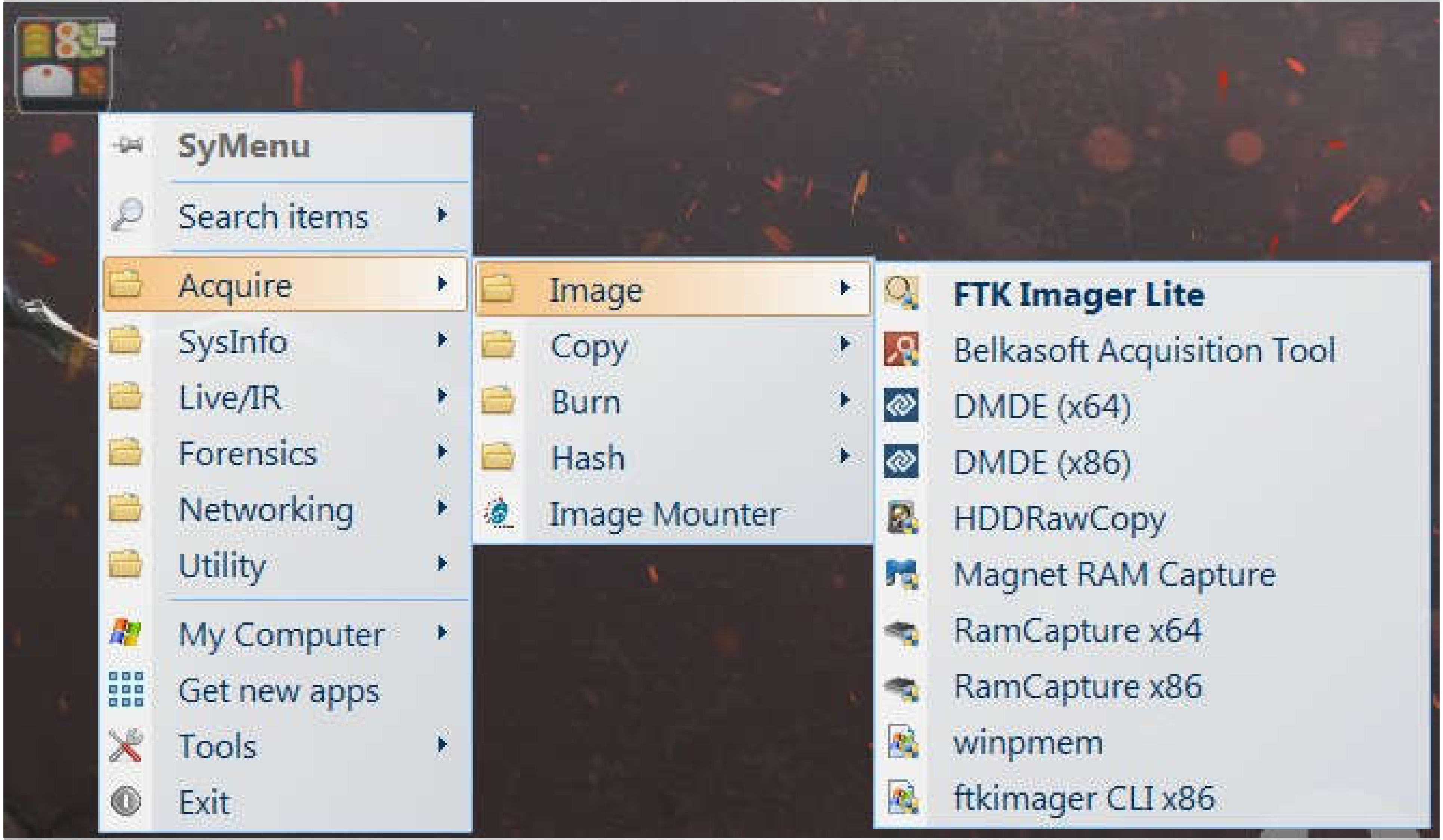
Bento
your forensic launcher box
v2019.02
TSURUGI
the sharpest weapon in your DFIR arsenal
www.tsurugi-linux.org

tsurugi-linux.org

BENTO

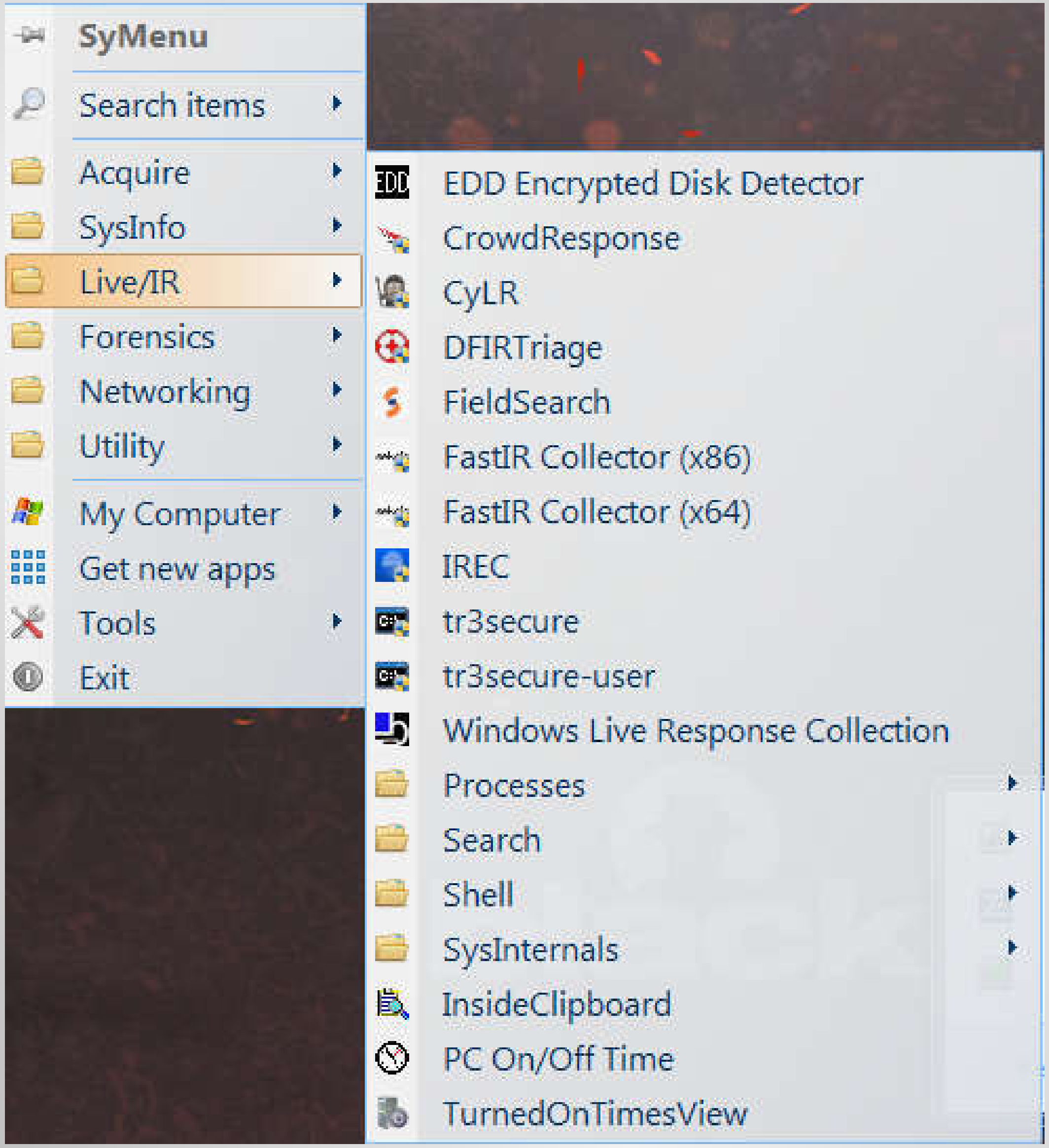
- Live forensics analysis toolkit
- About 300 tools (Windows, Linux, macOS)

BENTO TOOLKIT



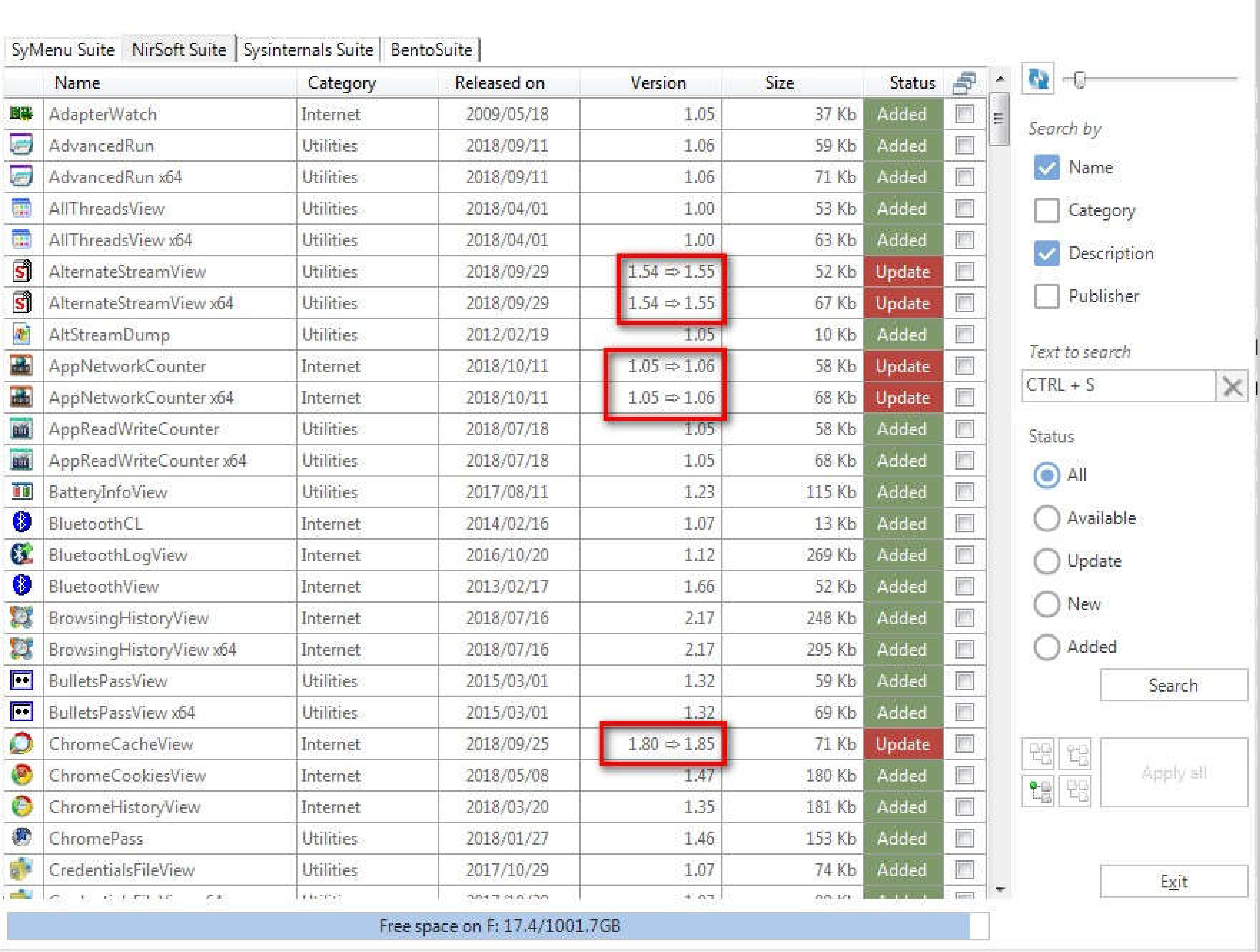
tsurugi-linux.org

BENTO TOOLKIT



tsurugi-linux.org

BENTO UPDATE MANAGER



Name	Category	Released on	Version	Size	Status	
AdapterWatch	Internet	2009/05/18	1.05	37 Kb	Added	□
AdvancedRun	Utilities	2018/09/11	1.06	59 Kb	Added	□
AdvancedRun x64	Utilities	2018/09/11	1.06	71 Kb	Added	□
AllThreadsView	Utilities	2018/04/01	1.00	53 Kb	Added	□
AllThreadsView x64	Utilities	2018/04/01	1.00	63 Kb	Added	□
AlternateStreamView	Utilities	2018/09/29	1.54 ⇒ 1.55	52 Kb	Update	□
AlternateStreamView x64	Utilities	2018/09/29	1.54 ⇒ 1.55	67 Kb	Update	□
AltStreamDump	Utilities	2012/02/19	1.05	10 Kb	Added	□
AppNetworkCounter	Internet	2018/10/11	1.05 ⇒ 1.06	58 Kb	Update	□
AppNetworkCounter x64	Internet	2018/10/11	1.05 ⇒ 1.06	68 Kb	Update	□
AppReadWriteCounter	Utilities	2018/07/18	1.05	58 Kb	Added	□
AppReadWriteCounter x64	Utilities	2018/07/18	1.05	68 Kb	Added	□
BatteryInfoView	Utilities	2017/08/11	1.23	115 Kb	Added	□
BluetoothCL	Internet	2014/02/16	1.07	13 Kb	Added	□
BluetoothLogView	Internet	2016/10/20	1.12	269 Kb	Added	□
BluetoothView	Internet	2013/02/17	1.66	52 Kb	Added	□
BrowsingHistoryView	Internet	2018/07/16	2.17	248 Kb	Added	□
BrowsingHistoryView x64	Internet	2018/07/16	2.17	295 Kb	Added	□
BulletsPassView	Utilities	2015/03/01	1.32	59 Kb	Added	□
BulletsPassView x64	Utilities	2015/03/01	1.32	69 Kb	Added	□
ChromeCacheView	Internet	2018/09/25	1.80 ⇒ 1.85	71 Kb	Update	□
ChromeCookiesView	Internet	2018/05/08	1.47	180 Kb	Added	□
ChromeHistoryView	Internet	2018/03/20	1.35	181 Kb	Added	□
ChromePass	Utilities	2018/01/27	1.46	153 Kb	Added	□
CredentialsFileView	Utilities	2017/10/29	1.07	74 Kb	Added	□

Free space on F: 17.4/1001.7GB

Search by

☑ Name

□ Category

☑ Description

□ Publisher

Text to search

CTRL + S

Status

● All

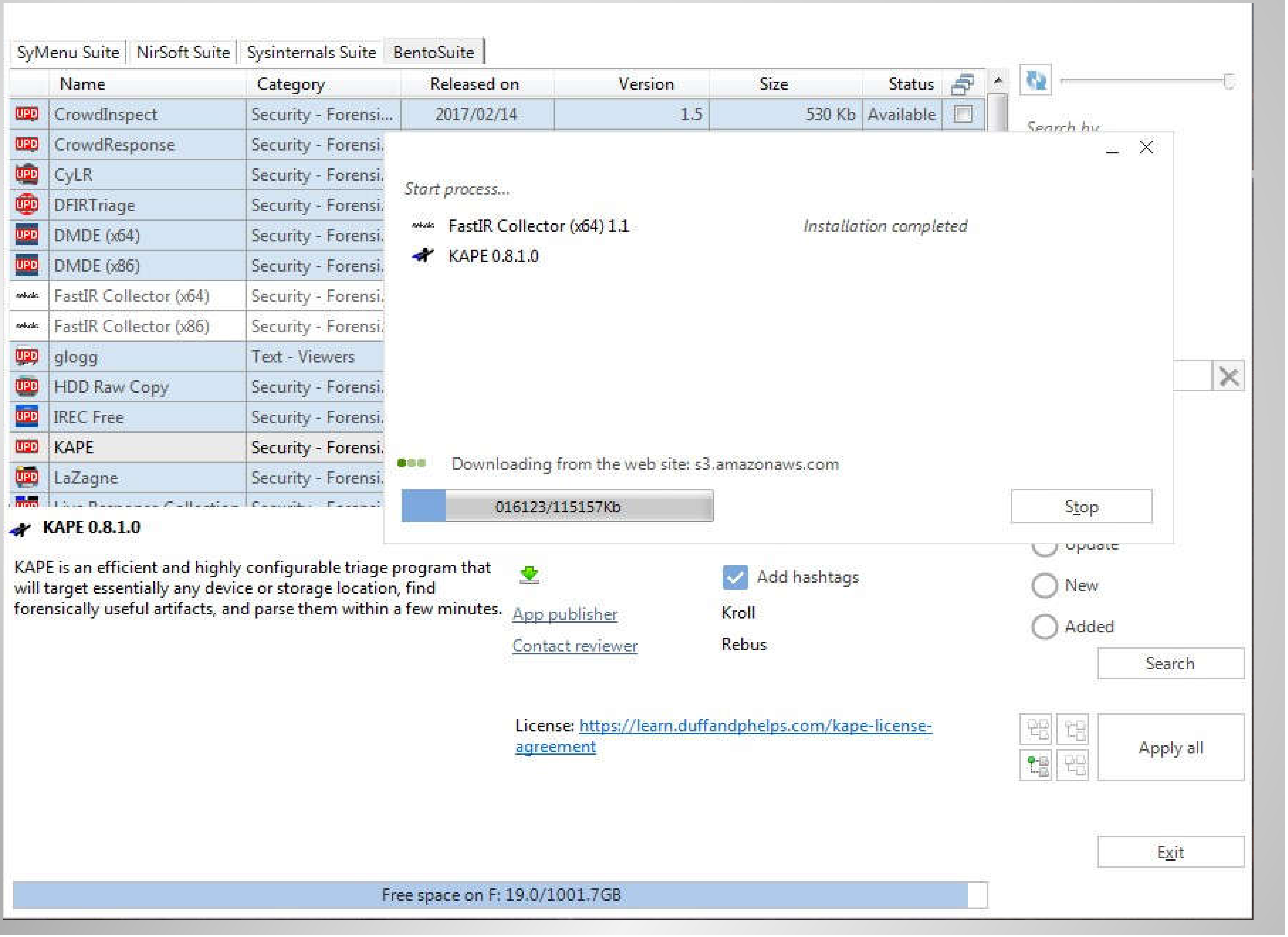
○ Available

○ Update

○ New

○ Added

BENTO PACKAGE MANAGER



	Name	Category	Released on	Version	Size	Status
UPD	CrowdInspect	Security - Forensi...	2017/02/14	1.5	530 Kb	Available □
UPD	CrowdResponse	Security - Forensi.				
UPD	CyLR	Security - Forensi.				
UPD	DFIRTriage	Security - Forensi.				
UPD	DMDE (x64)	Security - Forensi.				
UPD	DMDE (x86)	Security - Forensi.				
	FastIR Collector (x64)	Security - Forensi.				
	FastIR Collector (x86)	Security - Forensi.				
UPD	glogg	Text - Viewers				
UPD	HDD Raw Copy	Security - Forensi.				
UPD	IREC Free	Security - Forensi.				
UPD	KAPE	Security - Forensi.				
UPD	LaZagne	Security - Forensi.				
UPD	Live Response Collection	Security - Forensi.				

Start process...

FastIR Collector (x64) 1.1 *Installation completed*

KAPE 0.8.1.0

Downloading from the web site: s3.amazonaws.com

016123/115157Kb

KAPE 0.8.1.0

KAPE is an efficient and highly configurable triage program that will target essentially any device or storage location, find forensically useful artifacts, and parse them within a few minutes.

☑ Add hashtags

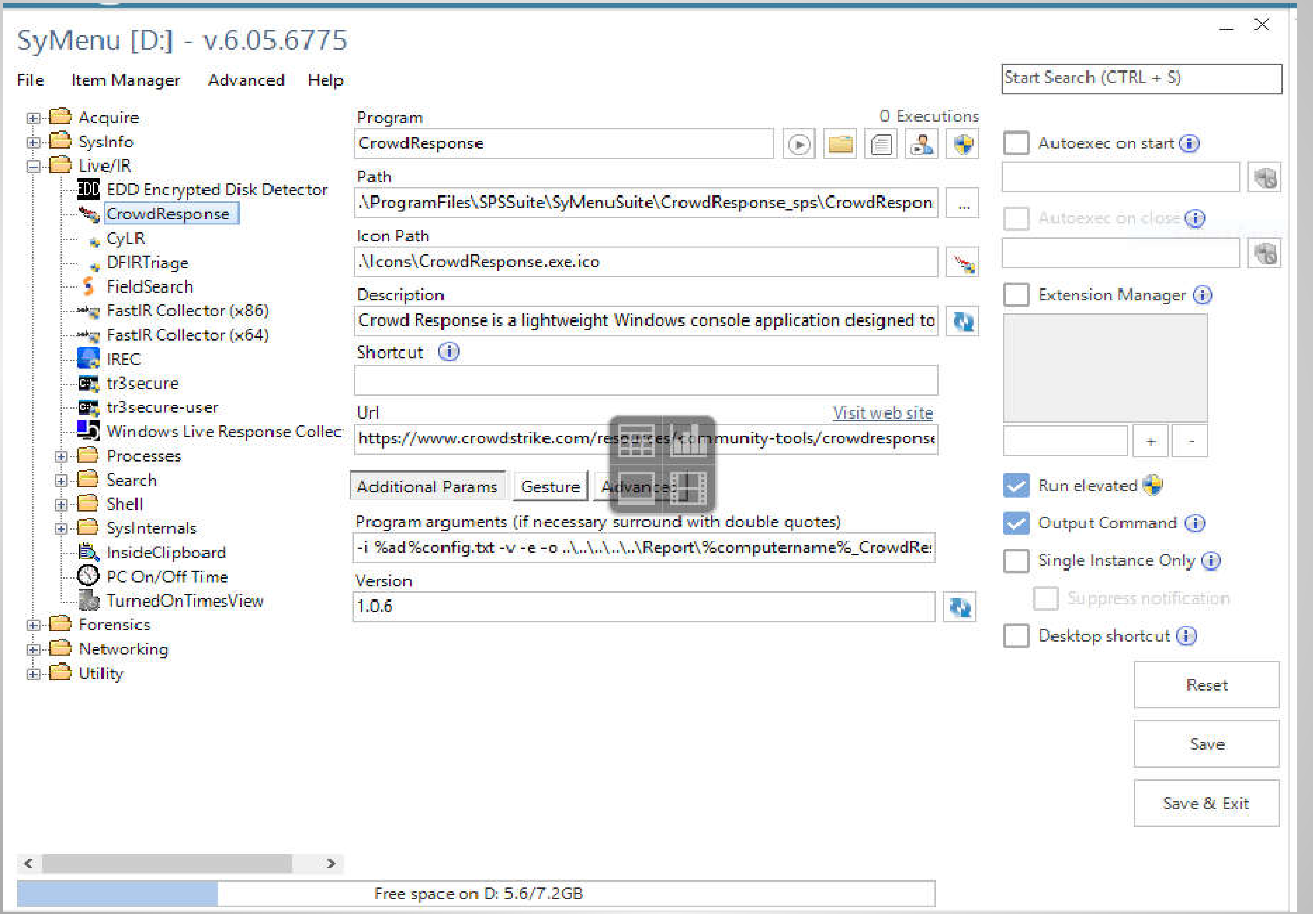
App publisher: Kroll

Contact reviewer: Rebus

License: https://learn.duffandphelps.com/kape-license-agreement

Free space on F: 19.0/1001.7GB

BENTO TOOLKIT



SyMenu [D:] - v.6.05.6775

Program: CrowdResponse

0 Executions

Path: .\ProgramFiles\SPSSuite\SyMenuSuite\CrowdResponse_sps\CrowdRespon

Icon Path: .\Icons\CrowdResponse.exe.ico

Description: Crowd Response is a lightweight Windows console application designed to

Shortcut:

Url: https://www.crowdstrike.com/resources/community-tools/crowdresponse

Program arguments (if necessary surround with double quotes): -i %ad%config.txt -v -e -o .\..\..\..\..\Report\%computername%_CrowdRe

Version: 1.0.6

□ Autoexec on start

□ Autoexec on close

□ Extension Manager

☑ Run elevated

☑ Output Command

□ Single Instance Only

□ Suppress notification

□ Desktop shortcut

Free space on D: 5.6/7.2GB

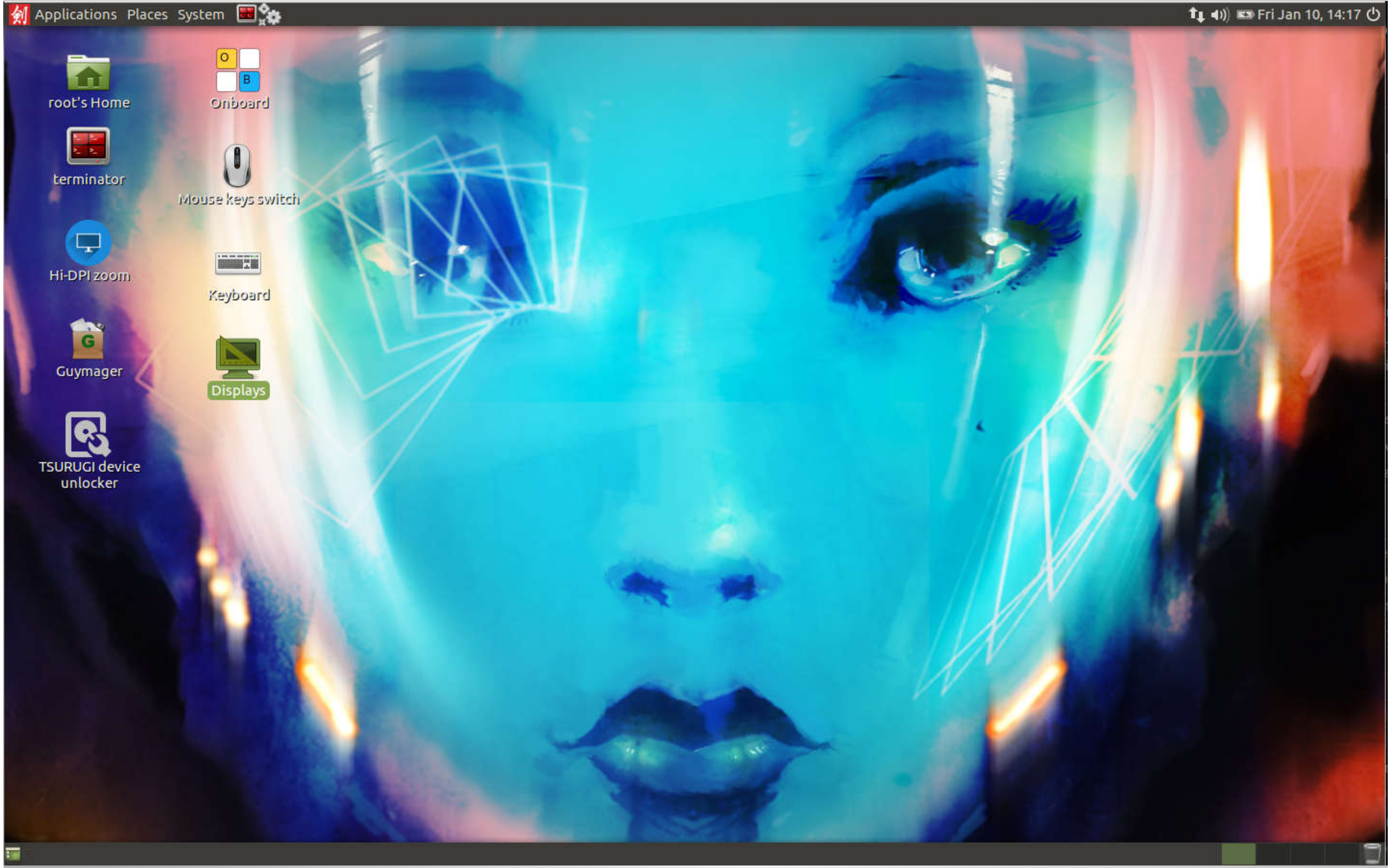
TSURUGI ACQUIRE

tsurugi-linux.org

TSURUGI ACQUIRE

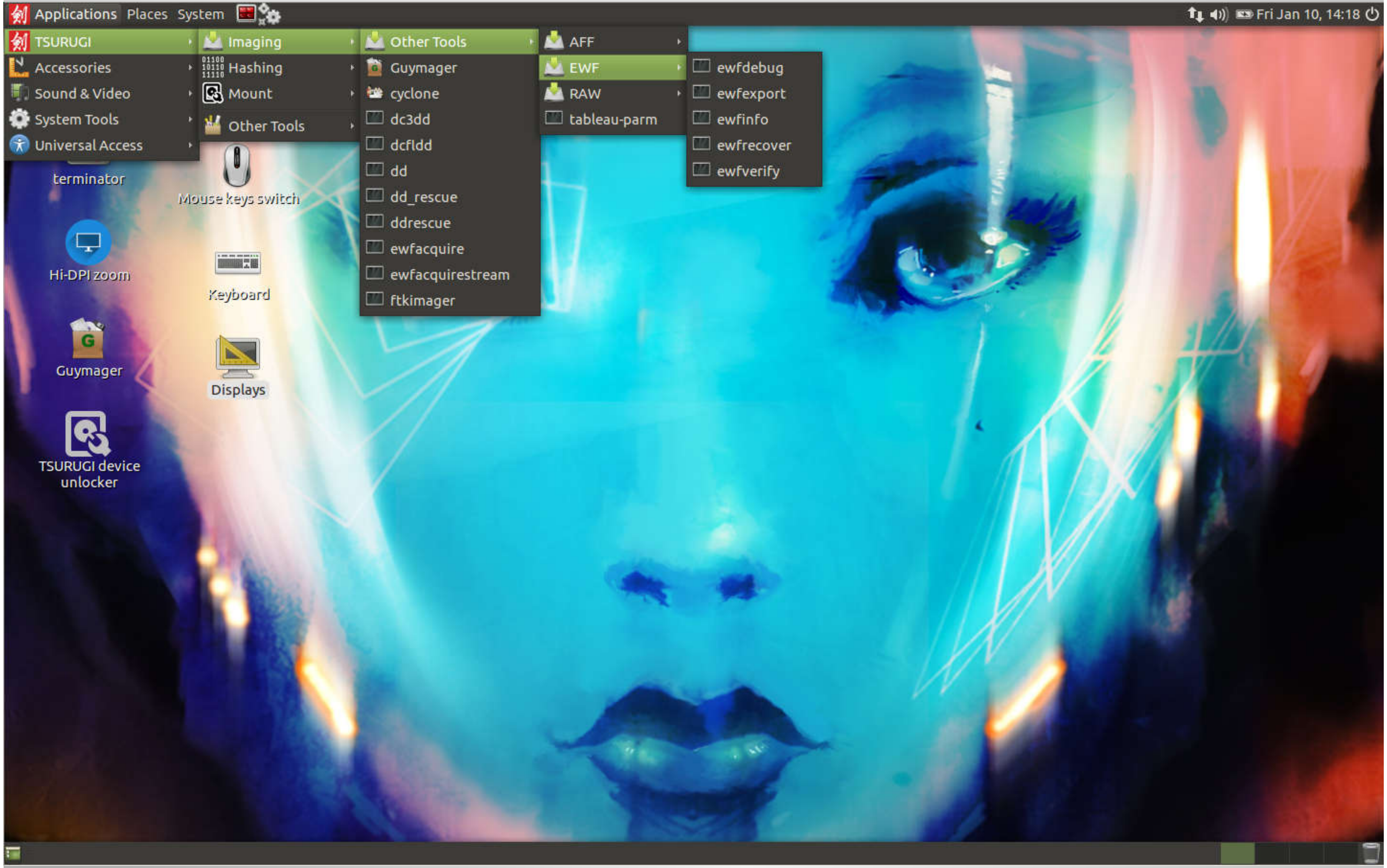
- 32 bits Linux distribution
- Live minimal version
- Only for “disk acquisition”
- KERNEL WRITE BLOCKER

TSURUGI ACQUIRE



tsurugi-linux.org

TSURUGI ACQUIRE



tsurugi-linux.org

NEXT STEPS & OUR ROADMAP

- System upgrade to new 20 LTS version [Q3 2020]
- New Amazing feature! (Use Tsurugi Linux and try to find the hint…) [Q3 2020]
- New Tsurugi Acquire based on Debian
- Create free basic DFIR trainings [Q4 2020]
- Don’t forget to sleep… ☺ [Q4 2021]

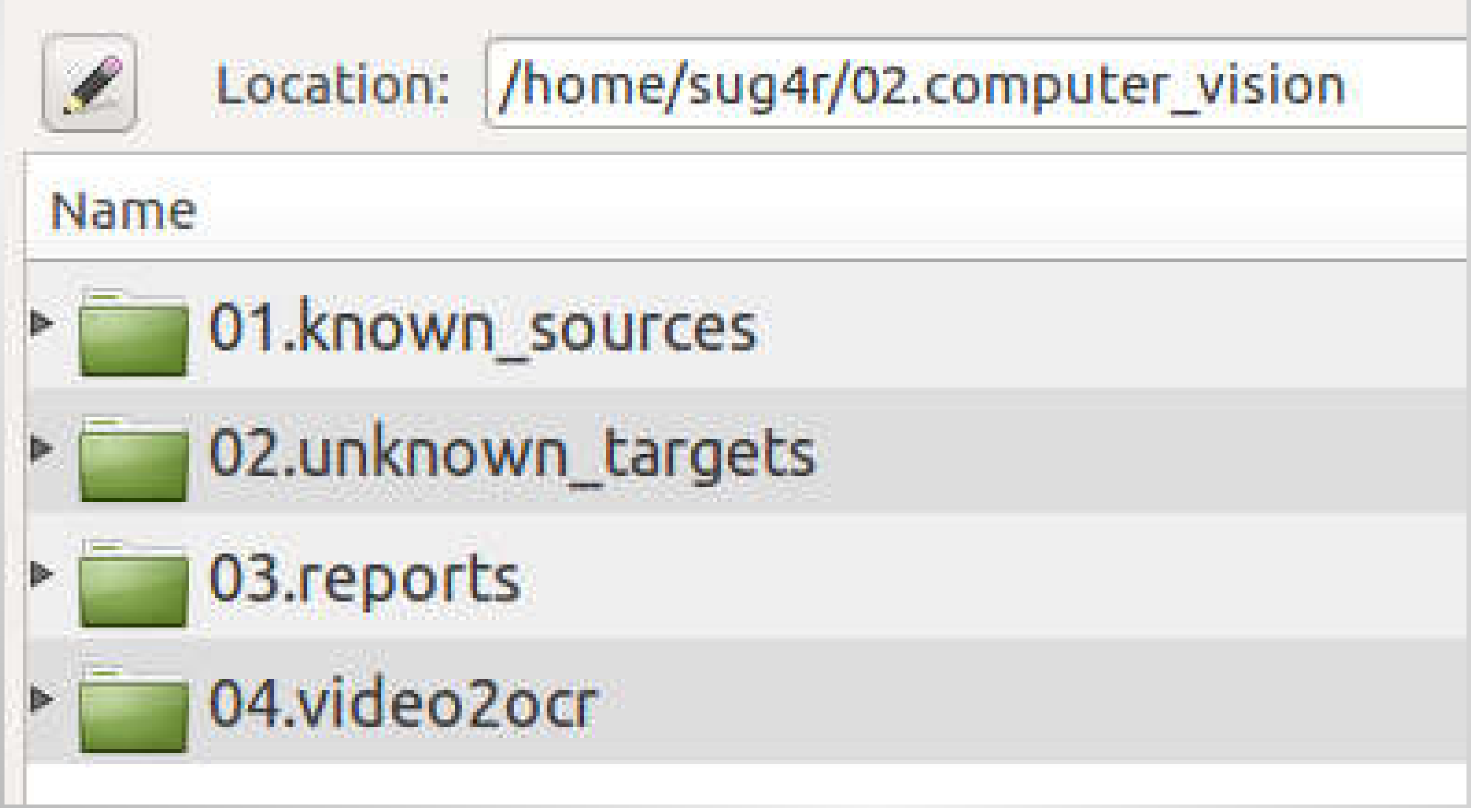
tsurugi-linux.org

OUR GOALS?

SHARE KNOWLEDGE
&
GIVE BACK TO THE COMMUNITY

DEMO TIME!

COMPUTER VISION



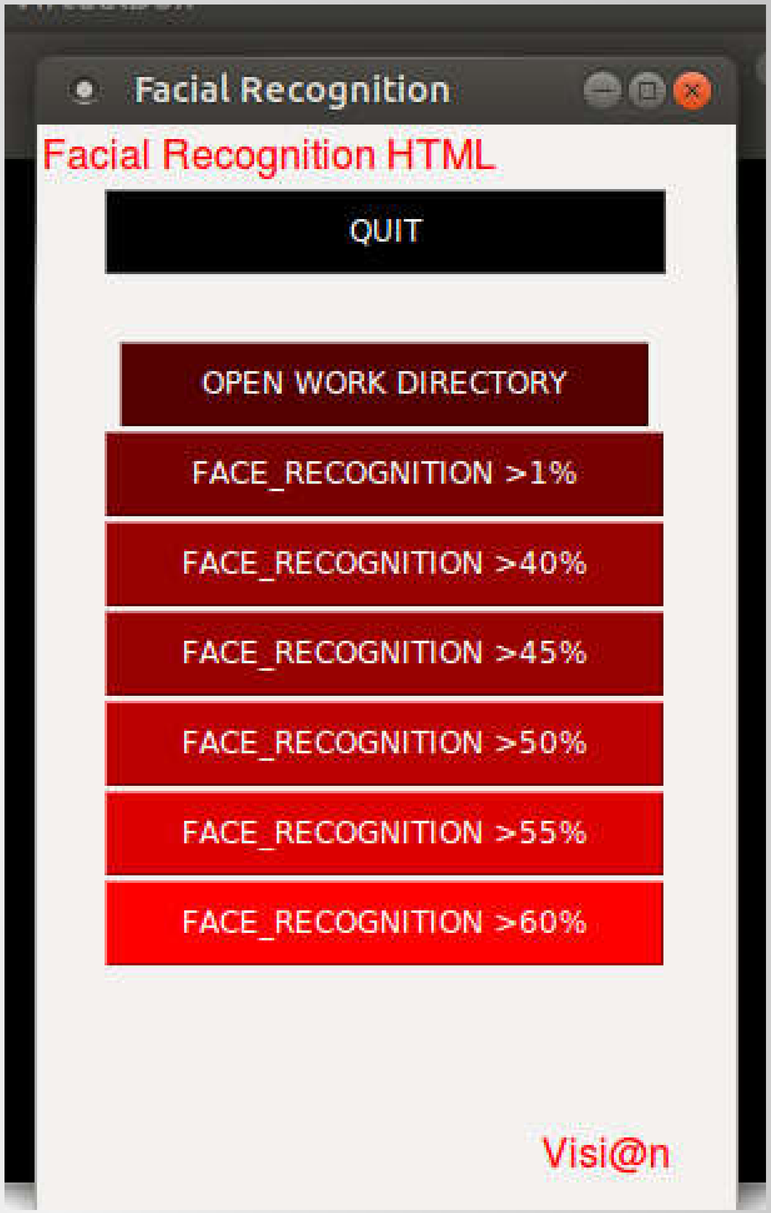
Location: /home/sug4r/02.computer_vision

Name

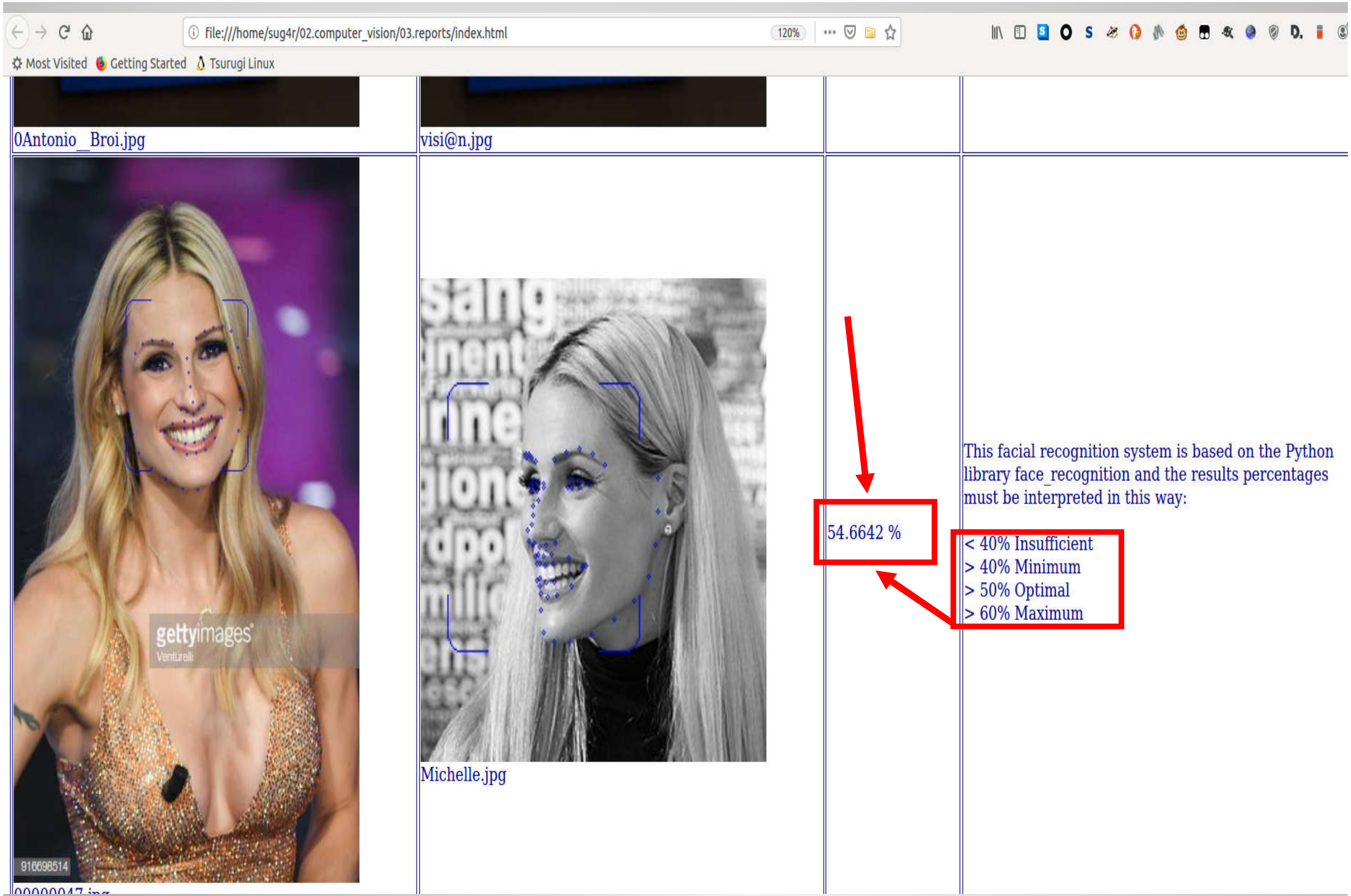
- 01.known_sources
- 02.unknown_targets
- 03.reports
- 04.video2ocr

COMPUTER VISION

facerec_WEB_GUI



tsurugi-linux.org



0Antonio_ Broi.jpg

visi@n.jpg

Michelle.jpg

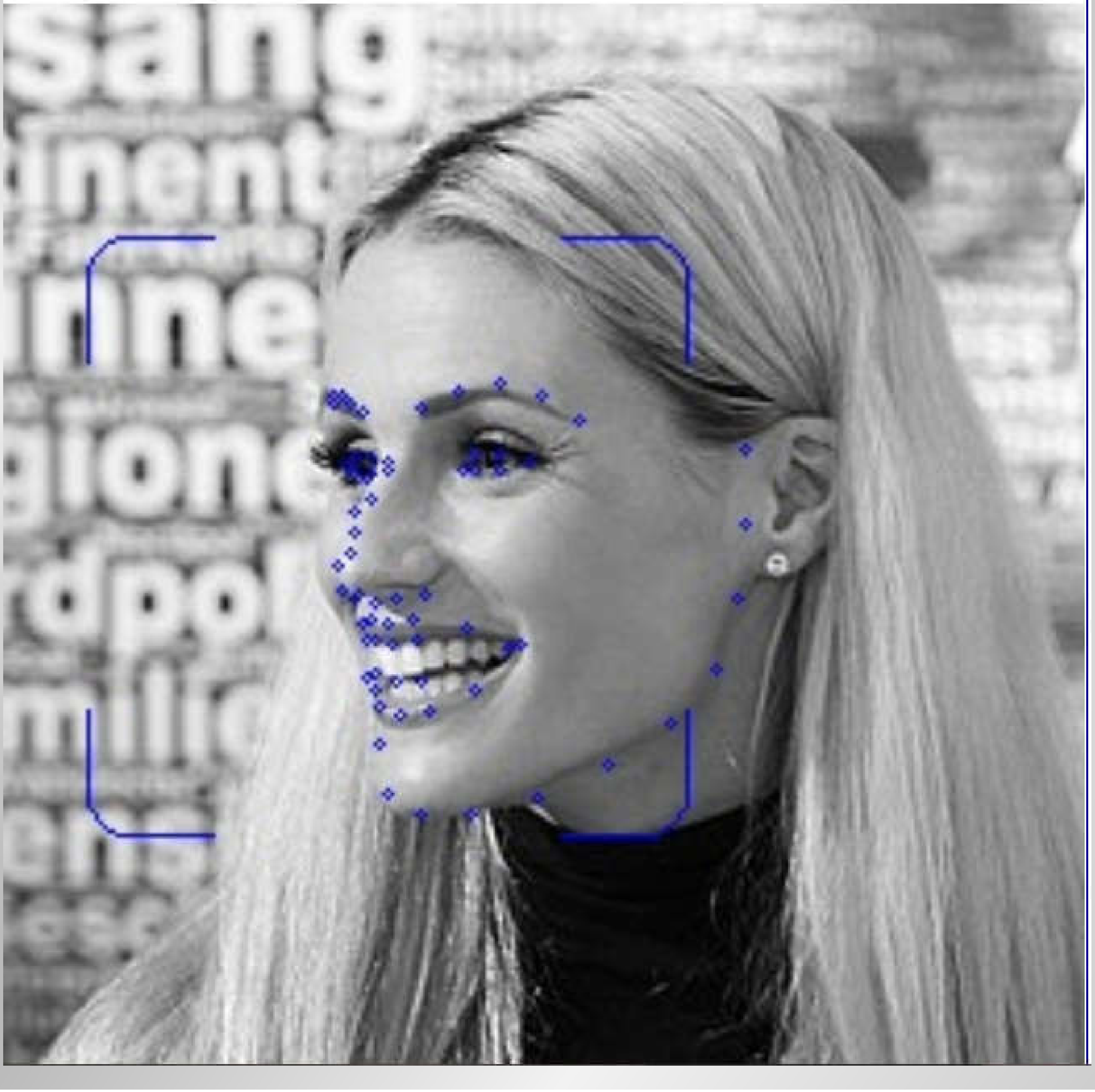
00000047.jpg

54.6642 %

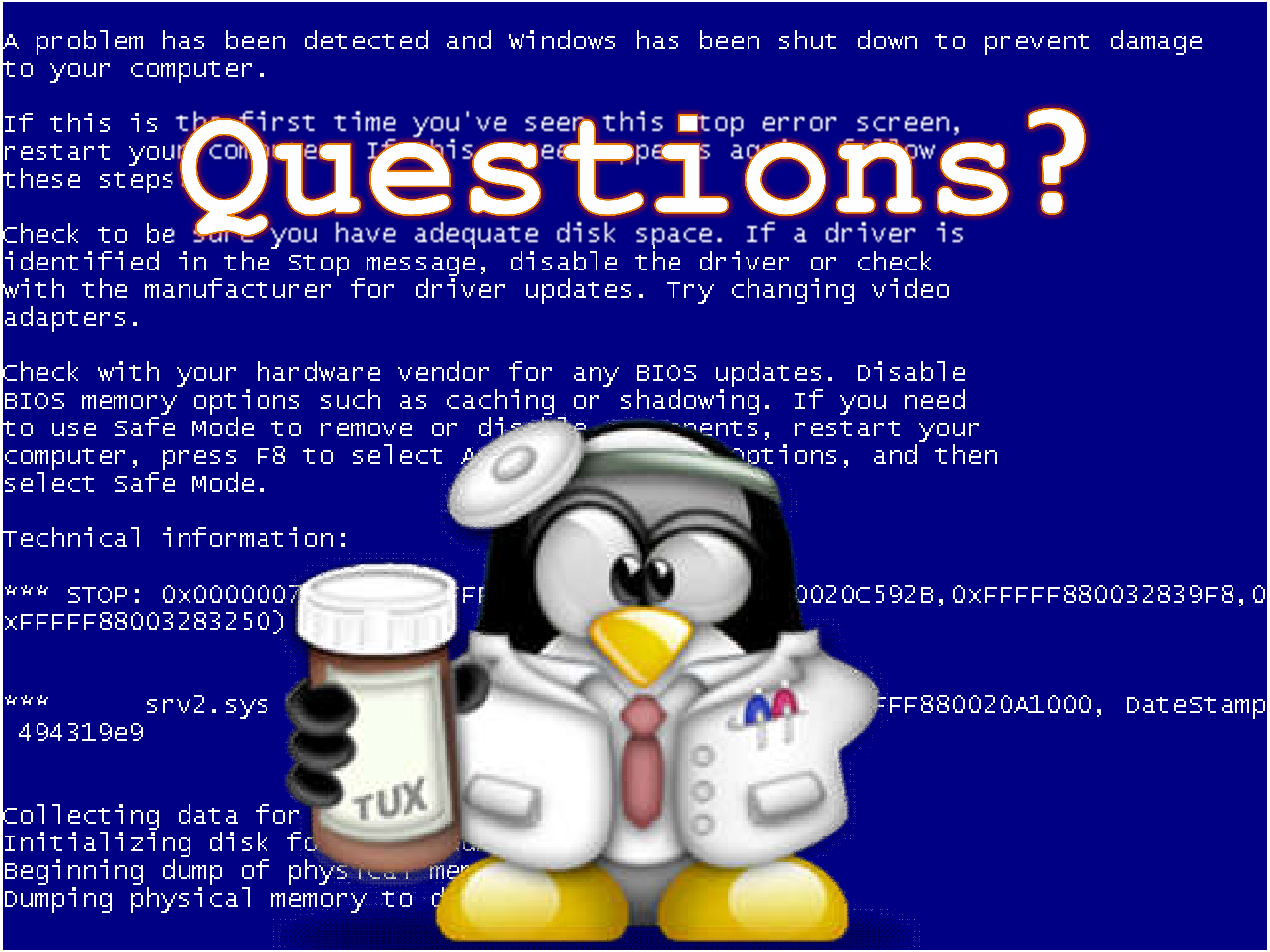
This facial recognition system is based on the Python library face_recognition and the results percentages must be interpreted in this way:

< 40% Insufficient
> 40% Minimum
> 50% Optimal
> 60% Maximum

FACE LANDMARKS



Questions?



```
A problem has been detected and windows has been shut down to prevent damage
to your computer.

If this is the first time you've seen this Stop error screen,
restart your computer. If this screen appears again, follow
these steps:

Check to be sure you have adequate disk space. If a driver is
identified in the Stop message, disable the driver or check
with the manufacturer for driver updates. Try changing video
adapters.

Check with your hardware vendor for any BIOS updates. Disable
BIOS memory options such as caching or shadowing. If you need
to use Safe Mode to remove or dis                ents, restart your
computer, press F8 to select A                  Options, and then
select Safe Mode.

Technical information:

*** STOP: 0x0000007        FF                 0020C592B,0xFFFFF880032839F8,0
xFFFFF88003283250)


***      srv2.sys                              FFF880020A1000, DateStamp
 494319e9


Collecting data for
Initializing disk fo
Beginning dump of phys      me
Dumping physical memory to d
```

@tsurugi_linux
@Sug4r7

www.linkedin.com/in/giovannirattaro

info [at] tsurugi-linux [dot] org

tsurugi-linux.org