

## I. IDENTIFICATION DATA

<b>Thesis title:</b>	A Network Dataset of Normal, Malware, Attack and Background Traffic on a Real Network
<b>Author's name:</b>	Štěpán Bendl
<b>Type of thesis :</b>	Master
<b>Faculty/Institute:</b>	CS, FEL, CVUT
<b>Department:</b>	Computer science
<b>Thesis reviewer:</b>	Veronica Valeros
<b>Reviewer's department:</b>	CS, FEL, CVUT

## II. EVALUATION OF INDIVIDUAL CRITERIA

<b>Assignment</b> <i>How demanding was the assigned project?</i>	<b>Challenging</b>
The assignment was very challenging. The creation of a network security dataset of high quality requires attention to detail, methodological work and a variety of cybersecurity knowledge, from networks, topologies, protocols, cybersecurity threats, malware, and security in general.	

<b>Fulfilment of assignment</b> <i>How well does the thesis fulfil the assigned task? Have the primary goals been achieved? Which assigned tasks have been incompletely covered, and which parts of the thesis are overextended? Justify your answer.</i>	<b>Fulfilled</b>
The thesis was fulfilled beyond the expectations. The primary goal, the creation of the dataset, was completed. Additionally the student worked beyond and presented its work in a poster conference and produced a draft for a journal paper that is currently under internal review.	

<b>Activity and independence when creating final thesis</b> <i>Assess whether the student had a positive approach, whether the time limits were met, whether the conception was regularly consulted and whether the student was well prepared for the consultations. Assess the student's ability to work independently.</i>	<b>A - excellent.</b>
The student presented an outstanding independence creating the final thesis. The student organized his own work, milestones, deadlines and coordinated on-demand consultations. The consultations were very fruitful as in each we work core thesis topics and emerging issues related to implementation or analysis.	

<b>Technical level</b> <i>Is the thesis technically sound? How well did the student employ expertise in his/her field of study? Does the student explain clearly what he/she has done?</i>	<b>A - excellent.</b>
This thesis involved the student not only knowing but deeply understanding a wide variety of cybersecurity knowledge. The student was able to show command of each topic at every step. The student was able to explain and discuss topics on various areas with enough deepness.	

<b>Formal level and language level, scope of thesis</b> <i>Are formalisms and notations used properly? Is the thesis organized in a logical way? Is the thesis sufficiently extensive? Is the thesis well-presented? Is the language clear and understandable? Is the English satisfactory?</i>	<b>A - excellent.</b>
The thesis was challenging to write due to the size and content. The student was able to formulate a good structure and explain all sections satisfactorily. The language was clear and the student presented a good use of the English language.	

<b>Selection of sources, citation correctness</b> <i>Does the thesis make adequate reference to earlier work on the topic? Was the selection of sources adequate? Is the student's original work clearly distinguished from earlier work in the field? Do the bibliographic citations meet the standards?</i>	<b>A - excellent.</b>
--	-----------------------

The student did a good selection of previous work, not only evaluating existing datasets but understanding their limitations to help create something better. The bibliographic citations are sufficient.

### **Additional commentary and evaluation (optional)**

*Comment on the overall quality of the thesis, its novelty and its impact on the field, its strengths and weaknesses, the utility of the solution that is presented, the theoretical/formal level, the student's skillfulness, etc.*

The output of this thesis work is a big contribution to the field of cybersecurity, and the student has shown, through knowledge, dedication and skill, be up to the task in producing high quality work.

### **III. OVERALL EVALUATION, QUESTIONS FOR THE PRESENTATION AND DEFENSE OF THE THESIS, SUGGESTED GRADE**

*Overall this thesis presents a significant contribution to the field of cybersecurity by analyzing previous efforts in network security datasets, interacting with the community to obtain feedback, designing, implementing, capturing traffic and labeling a new dataset with over 90 million network flows.*

The grade that I award for the thesis is **A - excellent**.

Date: **6.6.2023**

Signature:

