HSLU: Lucerne University of Appplied Sciences and Arts

DVIZ Main Project

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BSC Artificial Intelligence and Machine Learning

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1 Work Table

Due to me (Kevin Häusler) being the sole member of this project I have omitted the "done by" column.

Date	**Hours**	**Task description**
22.10.2024	0.1	Downloaded the json data from Shodan.io
07.11.2024	0.5	Setup the project, convert the json data to xlsx, setup latex environment
07.11.2024	1	Configure the initial streamlit setup
08.11.2024	1	Start writing the report + setup Github

2 About the Project

2.1 What is the project?

The project is something akin to a cyber security analytic about the devices listed on shodan.io based on their location being Rotkreuz. It is supposed to show insights about what is accessible and possibly insecure.

There are also dynamic parts where you can filter the data.

2.2 Data

The data is generated from shodan.io. I do have a lifetime membership that grants me enough credits to request and download 10000 entries. I did filter the data to be only from Rotkreuz which resulted in a little bit over 9000 datapoints that I am using for this project.

2.3 Tools

Here is a list of the tools I am using:

PyCharm Python 3.11 UV Streamlit Shodan CLI Docker Github LaTeX

I have setup the project in pycharm with UV so it is easier to distribute, there is also a docker file in case you have docker installed to easily run this project without having to create your own environment.

For the main library I have decided to use Streamlit, I have tried it out in the past but never for a real project so I wanted to get more indepth experience with it. It has a great documentation and it lets me easily create dataframes and charts for this project.

The whole report is also written in PyCharm with LaTeX and uploaded to the Github repository. It is written in the report.tex file and compiled to report.pdf.

This setup is also useful in case I need to work from different machines.

3 Motivation

Reason why I selected this

3.1 Cyber Security

Test