



# UNIVERSITÀ DI TRENTO

Department of Information Engineering and Computer Science

Bachelor's Degree in  
Information and Communications Engineering

FINAL DISSERTATION

## MACHINE LEARNING IMPLEMENTATION OF AN SDN-BASED INTRUSION DETECTION SYSTEM

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# Abstract

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# Keywords

- Keyword 1
- Keyword 2
- Keyword 3
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# 1 | Introduction

TEST

## 1.1 First section

This is very interesting: [2]. Also this [4], this [1], and this [3].

</> Implementation

```
from flask import Flask, render_template, url_for

app = Flask(__name__)

@app.route('/')
def login():
    return render_template('login.html')
```

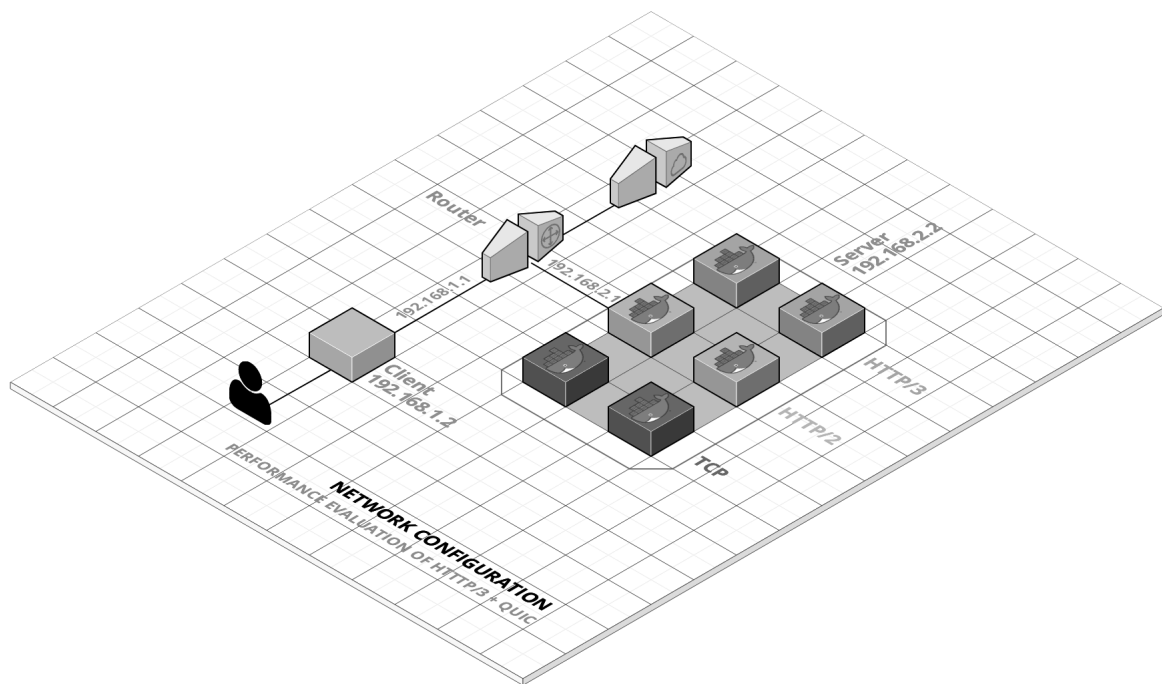


Figure 1.1: Network diagram used in the 2nd project work



## 2 | State of the Art

TEST

### 2.1 Second section



## 3 | Methodology



## 4 | Results



## 5 | Conclusions





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# Bibliography

- [1] Ict business. <http://www.ictbusiness.it/>. last access 15/06/2015.
- [2] Dollimore J. e Kindberg T Coulouris G. F. *Distributed Systems: concepts and Design*. Addison-Wesley, second edition edition, 1994.
- [3] Triggs B. Dalal N. Histograms of oriented gradients for human detection. In *Computer Vision and Pattern Recognition (CVPR)*, pages 886–893, San Diego, USA, 20-26 June 2005.
- [4] Donoho D. L. Compressed sensing. *IEEE Trans. Inf. Theory*, 52(4):1289–1306, 2006.



# A | Abbreviations