

University of Tartu  
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Cybersecurity Curriculum

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# Cyber security risks in telepresence robotics and their mitigation

Master's Thesis (21 ECTS)

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# **Cyber security risks in telepresence robotics and their mitigation**

## **Abstract:**

Telepresence robotics (TPRs) have become increasingly popular, particularly in higher education systems, as they enable users to remotely partake in events. However, this increased usage also presents potential security risks specific to TPRs, such as remote connection, cyber-physical presence, and live video and audio feed. Current risk assessment models do not adequately address these unique concerns, leading to a gap in understanding and mitigating TPR-related risks. This thesis aims to develop a new risk assessment model tailored to TPRs, incorporating existing frameworks such as RSF, CIA, OCTAVE A, ISO27005, and NSMROS. By identifying and validating potential risks through case studies and expert interviews, the study seeks to propose mitigation strategies with an emphasis on user data security. Ultimately, this research will provide organizations utilizing TPRs with a better understanding of security risks and effective solutions to protect their systems and users.

**Keywords:** Cyber security, risk assessment, telepresence robotics

## **CERCS:**

## List of Abbreviations and Terms

*A* The area of the needle point

*a* The number of angels per unit area

**LA** Los Angeles

*N* The number of angels per needle point

**NY** New York

**UN** United Nations

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# 1 Introduction

Test problem?

## 2 Title of Section 2

Short description of what this section is about

### 2.1 Title of Subsection 1

Some text... [1, pp. 1–2]

New York (NY), Los Angeles (LA) NY and United Nations (UN) are abbreviations whereas The number of angels per unit area ( $a$ ), The number of angels per needle point ( $N$ ) and The area of the needle point ( $A$ ) are part of the nomenclature

## References

- [1] Træinformation. *kursusmateriale om clt*. open in localhost. URL: <http://www.traeinfo.dk/kursusmateriale-om-clt/> (visited on 2020-05-01).

## **Appendix**

### **I. Glossary**



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