

# Automated Selection of Countermeasures in Risk Analysis

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## Thesis Details

Risk assessment (threat analysis) is traditionally performed by a group of human analysts (think Deloitte consultants that charge you per hour) by brainstorming about potential threats to the organization. This activity produces incomplete results, because humans are not able to take into account all possible scenarios. Thus lately security researchers started to work on automated risk assessment techniques, in which threats and potential attacks are identified automatically from some system model [2, 1].

However, risk assessment activity also includes risk treatment: identification of countermeasures that need to be introduced in the organization in order to reduce risks to acceptable levels. In this thesis you will look at automated identification of countermeasures for attack-defence trees models given some constraints (e.g., security budget).

This thesis will contribute to the EU research project TREsPASS. Interesting results will be included in the TREsPASS framework and presented to project partners (potential opportunities to travel to project meetings and to find further employment through new contacts in the project).

## References

1. Gadyatskaya, O.: How to generate security cameras: Towards defence generation for socio-technical systems. In: Proc. of GraMSec. LNCS, Springer (2015)
2. Ivanova, M.G., Probst, C.W., Hansen, R.R., Kammuller, F.: Transforming graphical system models to graphical attack models. In: Proc. of GraMSec. LNCS, Springer (2015)