

Future Cyber Attacks Modelling & Forecasting

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Problem Description: Modern digital world is constantly presenting new challenges, resulting from cyber-physical clashes. One of the greatest problems in the present context is adequately to react towards new threats and expected attacks in the evolving modern world. Both social and technological system components have to be studied in this sense.

A useful approach in support of the problem general coping is fusing expert, observation and reference data in weighted graph-based analytical models. Further, these however have to be adequately assessed and studied from multiple cyberattack dynamic perspective.

Five key steps towards solving the problems could be defined:

1. Selection of typical cyberattacks for further exploration in accordance with future digital space threats evolution prognosis;
2. Models definition for the selected cyberattacks in a suitable future exploration context;
3. Multicriteria selection for models overall holistic assessment;
4. Software working environments selection and models machine prototyping;
5. Numerical simulations of the developed models and results discussion.