# Multi-Model Based Incident Prediction and Risk Assessment in Dynamic Cybersecurity Protection for Industrial Control Systems

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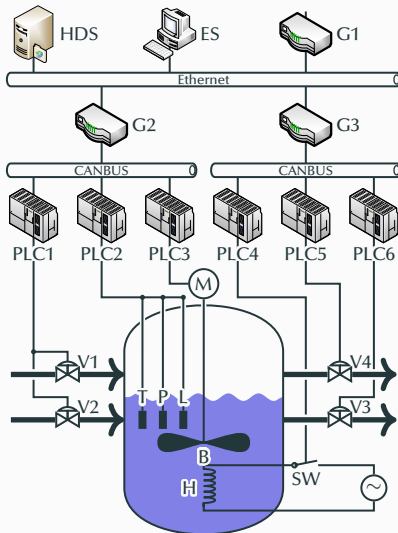Wuhan.

## Outlines

Simulation

    Simulation Platform

    Simulation and Result Analysis

# Simulation

# Simulation Platform

The simulation object is a chemical reactor whose control structure is shown as the following figure.



Legend

| | |
|---|---|
| HDS | Historical data server |
| ES | Engineer station |
| G1 | Gateway of Ethernet |
| G2 | Gateway of CANBUS |
| G3 | Gateway of CANBUS |
| PLC1 | Controller of V1 and V2 |
| PLC2 | Data collection of P, T and L |
| PLC3 | Controller of M |
| PLC4 | Controller of SW |
| PLC5 | Controller of V4 |
| PLC6 | Controller of V3 |
| V1 | Valve of material |
| V2 | Valve of another material |
| V3 | Valve of product |
| V4 | Valve of pressure reducing |
| M | Motor of B |
| SW | Switch of H |
| P | Pressure sensor |
| T | Temperature sensor |
| L | Liquid level sensor |
| B | Blender |
| H | Heater |

The simulation platform is implemented in Matlab, which consists of three modules: an evidence generator, an incident prediction module, and a risk assessment module.
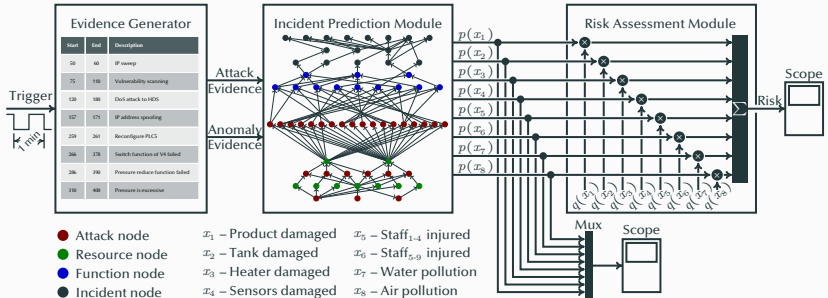
# Simulation and Result Analysis

# Questions?