# AlarmSolutions – AI-based alarm management

Alarms are the essential parts of the control system aiming to help the work of the operators by redirecting their attention towards critical plant conditions requiring timely assessment or action. Despite significant efforts to measure and assess the performance of alarm systems, to this day, no silver bullet has been found. We have recently developed an alarm monitoring software product in co-operation with the Rabbit Miner Kft. and the University of Pannonia. The software consists of three parts with increasing complexity: (1) starting with the simple statistical description and visualisation of alarm messages, the core bad actors are identified. (2) Analysing the connection of multiple alarm messages, redundant messages can be revealed. (3) Finally, with advanced machine learning solutions, we can predict future messages to increase the safety of the production.

Our aim at the Rabbit Miner Kft. is to apply the toolbox of data mining and machine learning for the analysis and monitoring of processes, and at the University of Pannonia, the education and research of these methods for industrial practitioners.

Check out our results on alarms.hu, a co-operated project between the University of Pannonia and the Rabbit Miner Kft.

PCS
Process Control Systems Meeting

8-10 November 2021
Miskolc-Lillafüred, Hotel Palota****
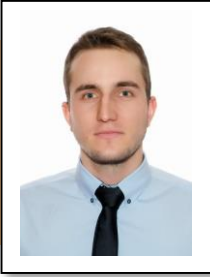
DÖRGŐ, Gyula

Rabbit Miner Kft.
Process Engineer
dorgo@rabbitminerlab.com

Gyula Dörgő graduated as a chemical engineer with a specialization in process engineering and obtained his PhD in data analysis and machine learning. Formerly, he conducted his research at the University of California. His industrial experience covers the areas of process data and event analysis and visualization techniques. His current work focuses on the applications of process mining tools in alarm management for the improvement of process safety.

Co-Author(s): RUPPERT, Tamás [1,2,3]; ABONYI, János[2,3]
1 – Rabbit Miner Kft., 4200 Hajdúszoboszló, Árpád str. 25. Building A., ruppert@rabbitminerlab.com
2 – University of Pannonia, 8200, Veszprém. Egyetem str. 10., janos@abonyilab.com
3 – MTA-PE Lendület Complex Systems Monitoring Research Group, 8200, Veszprém. Egyetem str. 10., janos@abonyilab.com