# **Thursday 24 April**

09:00

## **Opening**

Session | Location: Stara Kotłownia, SK 108, Warsaw University of Technology, Main Campus | Convener: Wlodzimierz Dabrowski

09:10

09:10

## Keynote

Session | Location: Stara Kotłownia, SK 108, Warsaw University of Technology, Main Campus

## Description

Dawid Adach: seryjny przedsiębiorca, inwestor, współtwórca MDB, CogniVis.ai oraz HydroCrops.farm. Z rozwiązań jego spółek korzysta ponad 3 mln użytkowników - w tym m.in. NASA, Amazon, Airbus czy Nike. Laureat listy "30 przed 30" polskiego "Forbesa".

09:10-09:30

Agent Al: współpraca, konkurencja czy symbioza?

#### Speaker

Dawid Adach

09:30 09:30

## **Session A (Presentation)**

Session | Location: Stara Kotłownia, SK 108, Warsaw University of Technology, Main Campus

09:30-09:42

Procedural civilization development including economical aspects and the terrain.

### **Speakers**

Michał Kostera, Paweł Cegielski

09:42-09:54

## Convolutional Kolmogorov Arnold Networks as an accurate alternative to Convolutional Neural Networks for rule discovery in Game of Life

#### **Speakers**

Maciej Michalski, Patryk Ferenc, Sebastian Górka

09:54-10:06 Mamba SSM with Kalman Filtering in Pendulum RL environment

## Speaker

Piotr Klepacki

10:06-10:16 Line Follower Algorithm for a Flying Quadcopter

### Speaker

Mikolaj Stasiak

## Optimization of neural network model for malware detection accelerated on mobile NPUs

## Speaker

Jan Konarski

10:30

### 10:30

10:45

## Break

Break | Location: Stara Kotłownia, SK 108, Warsaw University of Technology, Main Campus

10:45

## Session B (Poster)

Session | Location: Stara Kotłownia, SK 04/05, Warsaw University of Technology, Main Campus

## 10:45-11:15

Testy penetracyjne systemu zarządzania energią elektryczną OpenEMS identyfikacja i mitygacja podatności w otwartoźródłowych systemach energetycznych

#### Speaker

Kacper Gorlowski

10:45-11:15 Proxy Methods in Image Recognition

#### **Speakers**

Barbara Borkowska, Marcin Maciąg

#### 10:45-11:15

Comparing the Efficiency of Selected Reinforcement Learning Algorithms in **Stability Control and Navigation Tasks** 

Oskar Wyłucki

## 10:45-11:15

Automatic translation of Japanese manga using MultiModal Large Language Models

#### Speaker

Tomasz Nitsch

#### 10:45-11:15

Exploring LLMs mathematical reasoning capability: Insights from GSM-Symbolic in **English and Polish** 

#### Speakers

Marcin Łomiński, Michał Tomczyk

10:45-11:15 Ethereum price forecasting using deep neural networks

## Speaker

Oskar Rozwadowski

## 10:45-11:15

A Lung Volume-Based Perfusion SPECT and CT Comparison Algorithm for **Enhanced Pulmonary Embolism Diagnosis** 

#### **Speakers**

Daniel Kisiel, Eryk Muchorowski

#### 10:45-11:15

Enhancing Large Language Models with Retrieval-Augmented Generation: A Case Study on Movie Data Beyond the Training Cutoff

### **Speaker**

Marcel Mikołajczyk

Analysis and comparison of missing value imputation methods for atmospheric pollution data

#### Speaker

Jakub Jasiński

10:45-11:15

Franky: An Intelligent Agent for Stock Portfolio Management Using Large **Language Models and Deep Reinforcement Learning** 

Mateusz Bartosik, Mikolaj Zawada

10:45-11:15 Zastosowanie modeli GAN do usuwania artefaktów z sygnału EEG

#### Speaker

Małgorzata Sokół

#### 10:45-11:15

Verification of the authenticity of bullion coins with a mobile application based on frequency analysis using an artificial neural network

#### Speaker

Tomasz Gryczka

#### 10:45-11:15

Accelerating AI Inference in the Browser with WebGPU: Evaluating Quantization Trade-offs in Latency, Quality, and Memory Usage

#### **Speakers**

Ignacy Ruszpel, Nikodem Wójcik

10:45-11:15 Evaluating detection methods of synthetic images

#### **Speakers**

Michal Wójtowicz, Michał Biliński

#### 10:45-11:15

Comparative Analysis of Multi-Agent LLM Systems for Solving Polish Matura in **Physics Exams** 

#### Speaker

Piotr Wróbel

## 10:45-11:15

**Examination of PCA Utilisation for Multilabel Classifier of Multispectral Images** 

### **Speakers**

Bartosz Staszynski, Filip Karpowicz, Wiktor Kępiński

10:45-11:15 Przewidywanie wstrząsów wtórnych przy pomocy Sieci Neuronowych.

## Speaker

Mikołaj Klębowski

### 10:45-11:15

Optimizing Football Betting Strategies Using Deep Neural Networks and Modern **Portfolio Theory** 

#### **Speakers**

Daniel Kuciński, Tomasz Mycielski

10:45-11:15 Pose-Based Motion Analysis for Physical Exercise Quality Assessment

#### Speaker

Wojciech Jakieła

10:45-11:15 Comparison of Models for Automatic Description of Medical Images

Speaker

Jakub Urbański

10:45-11:15

Comparative Analysis of Machine Learning and Statistical Models for Short-Term **Energy Production Forecasting in Poland** 

Jakub Karpiński

10:45-11:15

**Explainability of Convolutional Neural Network: Overview of Methods** 

Speaker

Magdalena Markowicz

10:45-11:15 Post-Quantum Cryptography: Benchmarking ML-KEM Against RSA

Speaker

Nina Łabęcka

10:45-11:15

Evaluating unsupervised data mining methods to assess the utility of such approaches for SIEM event analysis.

Speaker

Marcin Dydo

10:45-11:15

Enhancing Phishing Detection on Websites: A Hybrid Approach Combining Signature-Based Detection and Traditional Machine Learning Methods - Abstract

**Speakers** 

Jakub Romanek, Marcin Latawiec

11:15

11:15

11:30

11:30

**Break** 

Break | Location: Stara Kotłownia, SK 108, Warsaw University of Technology, Main Campus

#### Session C (Poster)

Session | Location: Stara Kotłownia, SK 04/05, Warsaw University of Technology, Main Campus

11:30-12:00

Przegląd znakowania wodnego obrazów we współczesnych zastosowaniach

Speakers

Adam Pilewski, Mikołaj Kordowski

11:30-12:00

Projekt uniwersalnego robota modularnego

Speakers

Feliks Brzeziński, Kacper Olszewski, Patrycja Płodowska

11:30-12:00

Attacks on LSTM-Based Recurrent Neural Networks for Sentiment Analysis

Speaker

Rafał Zan

11:30-12:00 Performance Comparison of WebAssembly and JavaScript

**Speakers** 

Jakub Ciszewski, Kaja Myk

11:30-12:00

Database Index Costs in the Cloud-Based Multitenant Architecture on the **Salesforce Platform** 

**Speaker** 

Stanislaw Zań

11:30-12:00

HDR - the impact of input parameters on the result for Debevec algorithm

**Speakers** 

Jakub Maciejewski, Michał Ziober

11:30-12:00 Perception manipulation and subjective reception of data

Speaker

Filip Horst

11:30-12:00

Spatio-Temporal Memory System for Robots: Enabling Long-Term Contextual Reasoning

**Speaker** 

Maciej Majek

11:30-12:00

Comparison of multiplatform technologies for mobile application development

Speaker

Michał Ankiersztajn

11:30-12:00

Development of a model of the electric field distribution inside the human brain

**Speakers** 

Konrad Trusiewicz, Mikołaj Guryn, Zuzanna Gaik

11:30-12:00 Selected methods in N-body simulations

Speaker

Aleksy Bałaziński

11:30-12:00

User experience laws: a literature review and practical examples based on DoorCE project

Speaker

Jerzy Balcer

11:30-12:00 Blazor WebAssembly and React comparison

Speaker

Antoni Olszewski

11:30-12:00

Comparative Analysis of Continuous Software Delivery Tools Using Github Actions and Jenkins as Examples

Speaker

Paweł Prokopiuk

11:30-12:00

Badania i Implementacja Innowacyjnego Systemu Zasobnika Energii Współpracującego z Odnawialnymi Źródłami Energii INNOSTOR dla Zrównoważonego Rozwoju na Politechnice Warszawskiej

#### **Speakers**

Jakub Ćwiek, Jan Kowalik, Ryszard Kucharski

#### 11:30-12:00

Flutter vs. React for Web Applications: A Comparative Benchmark Study of **Performance Metrics and Developer Experience** 

#### **Speaker**

Jakub Witczak

11:30-12:00 BBot - Behavioral reinforced learning bot to play blood bowl

#### **Speakers**

Bartosz Nowicki, Karol Kociołek, Wiktor Wołek

11:30-12:00 Overview of Communication Mechanisms Adopted in Modern Systems

#### **Speakers**

Jakub Szczygielski, Michał Żdanuk

11:30-12:00 Wpływ facylitacji na efektywność spotkań w projektach IT

#### Speaker

Darya Vasilchyk

11:30-12:00 Low-cost, home-made Quantum Computer

#### Speaker

**Hubert Kołcz** 

11:30-12:00

A Survey of Consensus Algorithms in Distributed Ledger Technology for Internet of Things

#### Speaker

Paweł Podgórski

11:30-12:00

Comparison of the Performance and Effectiveness of Hashing Algorithms

## Speaker

Konrad Zilinski

11:30-12:00

Wpływ stopnia sprzężenia klas na czas wprowadzenia zmian - badanie empiryczne

## Speaker

Dawid Pura

11:30-12:00

Machine Learning-Based Examination of ESG Factors in Stock Predictions

Daniel Stańkowski, Daniel Ślusarczyk, Paweł Tęcza

11:30-12:00

Threat Detection in IIoT Networks through Deep Packet Inspection and Machine **Learning Mechanisms** 

| 12:00               | Speaker<br>Hubert Masłowski   |
|---------------------|---|
| 12:00<br> <br>13:00 | Break / Voting Ends Break   Location: Stara Kotłownia, SK 108, Warsaw University of Technology, Main Campus   |
| 13:00               | Closing: Awards and Closing Session   Location: Stara Kotłownia, SK 108, Warsaw University of Technology, Main Campus   Convener: Wlodzimierz Dabrowski |