

Program

24 April 2025

Student IT/EE Workshop 2025

Stara Kotłownia, SK 108
Warsaw University of Technology, Main Campus

Thursday 24 April

09:00

Opening

Session | **Location:** Stara Kotłownia, SK 108, Warsaw University of Technology, Main Campus | **Convener:** Włodzimierz 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”.

09:30

09:10–09:30

Agent AI: współpraca, konkurencja czy symbioza?

Speaker

Dawid Adach

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

Is it Hard for Kolmogorov-Arnold Networks To Learn the 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

Mikołaj Stasiak

10:16–10:28

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**Speaker**

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

10:45–11:15

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**Speakers**

Mateusz Bartosik, Mikołaj 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**

Michał 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 Jakiela

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**Speaker**

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

Attacks on LSTM-Based Recurrent Neural Networks for Sentiment Analysis**Speaker**

Rafał Zan

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

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

Hubert Masłowski

11:30–12:00

Projekt uniwersalnego robota modularnego

Speakers

Feliks Brzeziński, Kacper Olszewski, Patrycja Płodowska

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**

Stanisław 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

Porównanie wydajności i skuteczności algorytmów mieszających**Speaker**

Konrad Zilinski

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 Vasilchuk

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**Speakers**

Daniel Stańkowski, Daniel Ślusarczyk, Paweł Tęcza

Break / Voting Ends**Break** | **Location:** Stara Kotłownia, SK 108, Warsaw University of Technology, Main Campus**Closing: Awards and Closing****Session** | **Location:** Stara Kotłownia, SK 108, Warsaw University of Technology, Main Campus | **Convener:** Włodzimierz Dabrowski