



15th Asian Conference on Intelligent Information and Database Systems

24-26 July 2023, Phuket, Thailand



AINBC 2023

Special Session on AI in Neurology to Brain Computations

at the 15th Asian Conference on Intelligent Information and Database Systems (ACIIDS 2023)

Phuket, Thailand

Conference website: <http://www.aciids.pwr.edu.pl/>

Special Session Organizers

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Objectives and topics

In 1936 Alan Turing has invented the “automatic machine”. Later it was called a Universal Turing Machine and its universality was supported by a formal theory of computation proposed as the Church-Turing thesis. Till today is still a discussion if neurological processes in the brain are equivalent to computations of the Turing Machine. Progress in neuroscience and neurology from one side, and the development of AI such as NN (especially DNN) from the other, show more and more similarities between them.

Therefore, our session is devoted to looking into the neurological processes as brain computations to demonstrate the theoretical and practical advantages of such an approach. Even if we are still far away from fully understanding brain computations, we have much evidence that they are leading us to more intelligent AI (NN to DNN) methods. We propose to address classification, prediction, and clustering methods as intelligent biomarkers that potentially might be more sensitive than standard neurological tests. We want to offer an opportunity for researchers and practitioners to identify new promising research directions as well as to publish recent advances in this area.

The scope of the AINBC 2023 includes, but is not limited to the following topics:

- AI methods in brain research
- AI algorithms in neurological mechanisms
- AI and Deep Brain Stimulation in neurological diseases
- Machine learning in motor symptom progressions in neurodegenerative diseases (ND)
- Data mining in brain imaging: CT, MRI, DTI, and fMRI
- Estimation of different therapies efficiencies by means of data mining
- Machine learning in brain mapping
- Different Data Mining methods as a tool to study cognitive or emotional brain
- Brain plasticity and machine learning algorithms
- Diagnostic data mining emotions classification in speech and music
- Eye movements properties as an important biomarker of ND
- Time series analysis in research for the elderly and those at risk of neurodegenerative diseases
- AI system interactions with human motions

Important dates

Submission of papers: **February 14, 2023**

Notification of acceptance: **April 1, 2023**

Camera-ready papers: **May 1, 2023**

Registration & payment: **May 1, 2023**

Conference date: **July 24-26, 2023**

Program Committee

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Submission

All contributions should be original and not published elsewhere or intended to be published during the review period. Authors are invited to submit their papers electronically in pdf format, through Easy Chair. All the special sessions are centralized as tracks in the same conference management system as the regular papers. Therefore, to submit a paper please activate the following link and select the track: ***AINBC 2023: Special Session on AI and Neurology to Brain Computations.***

<https://easychair.org/conferences/?conf=aciids2023>

Authors are invited to submit original previously unpublished research papers written in English, of up to 13 pages, strictly following the LNCS/LNAI format guidelines. Authors can download the Latex (recommended) or Word templates available at website. Submissions not following the format guidelines will be rejected without review. To ensure high quality, all papers will be thoroughly reviewed by the MLND 2022 Program Committee. All accepted papers must be presented by one of the authors who must register for the conference and pay the fee. The conference proceedings will be published by Springer in the prestigious series LNCS/LNAI (indexed by ISI CPCI-S, included in ISI Web of Science, EI, ACM Digital Library, dblp, Google Scholar, Scopus, etc.).