

Programme of ELM 2022 – Dec 8-9, 2022, Virtual Conference (Main location Helsinki – Finland)

IMPORTANT NOTE! All times are given in the Finnish time zone (Helsinki, UTC+2) and in 24 Hour format

Location: Kaj-Mikael Björk is inviting you to a scheduled Zoom meeting.

Join Zoom Meeting

<https://arcada.zoom.us/j/69291455305?from=addon>

Meeting ID: 692 9145 5305

Join by SIP

[69291455305@109.105.112.236](tel:69291455305@109.105.112.236)

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Join by H.323

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DAY 1 – Dec 8, 2022

- 09.00-9.10 Opening Statement, Introduction, Kaj-Mikael Björk, Risklab Finland, Arcada
- 09.10-10.00 Keynote 1: Prof. Guangbin Huang, NTU, Singapore and Mind PointEye, *OPENING KEYNOTE*
- 10.00-10.15 Break
- 10:15-11:45 Session 1: ELM – Method Development in ELM
- Distributed memory-efficient algorithm for Extreme Learning Machines based on Spark (by Anton Akusok & Leonardo Espinosa-Leal & Kaj-Mikael Björk & Amaury Lendasse)
- Peak-Sensitive Method based on Extreme Learning Machine for Time Series Forecasting (by Lai Qi & Vong Chi Man & Chen Chuang Quan)
- SGL-ELM: Identity Inference with Self-supervised Graph Learning and Extreme Learning Machine (by Xin Yao & Xiangguo Zhao & Qingling Jiang & Rui He & Xin Bi)
- 11:45-12.45 Lunch Break

- 12:45-14:45 Session 2: ELM in applications
- Does streaming affect video game popularity? *(by Zhen Li & Leonardo Espinosa-Leal & Maria Olmedilla & Amaury Lendasse & Kaj-Mikael Björk)*
- Speech Dereverberation based on Self-Supervised Residual Denoising Autoencoder with Linear Decoder *(by Tassadaq Hussain & Ryandhimas E. Zezario & Yu Tsao & Amir Hussain)*
- Importance of the activation function in extreme learning machine for acid sulfate soil classification *(by Virginia Estevez & Stefan Mattbäck & Kaj-Mikael Björk)*
- Predicting the Colorectal Cancer mortality in the Region of Lleida, Spain: A Machine Learning Study *(by Dídac Florensa & Jordi Mateo & Francesc Solsona & Pere Godoy & Leonardo Espinosa-Leal)*
- 14.45-15.00 Break
- 15.00-15.30 Keynote 2: Ed Ratner, Verseon Corp. "Extreme learning machines in practice"
- 15.30-16.00 Concluding remarks and discussion
- 16.00 End of Day 1

DAY 2 – Dec 9, 2022

- 09.00-9.05 Opening Statement, Kaj-Mikael Björk, Risklab Finland, Arcada
- 9.05-10.00 Keynote 3: Enrico Schiassi, University of Arizona, "Extreme theory of functional connections"
- 10.00-10.15 Break
- 10.15-11.45 Session 3: ELM + Numerical Analysis
- Hidden-layer concatenated ELM for computational PDEs *(by Naxian Ni & Suchuan Dong)*
- Physics-Informed Neural Networks for 2 nd Order ODEs with Sharp Gradients *(by Mario De Florio & Enrico Schiassi & Francesco Calabrò & Roberto Furfaro)*
- A Novel PCA-ELM Technique For Modeling Average Fragment Size In Blasting Operations *(by Ramesh M. Bhatwdekar & Norhazira hmad & Noraini Ibrahim & Radhikesh Kumar & Danial Jahed Armaghani & Edy Tonnizam Mohamad & Vynotdni Rathinasamy & Anand Ravi Deshpande)*
- 11.45-12.45 Lunch Break
- 12.45-13.15 Workshop: Practical considerations implementing ELM *(by Anton Akusok)*
- 13:15-15:15 Session 4: ELM in Computer Vision and Motion
- Massive Offline Signature Forgery Detection with Extreme Learning Machines *(by Leonardo Espinosa-Leal & Zhen Li & Renjie Hu & Kaj-Mikael Björk)*

Contrastive Self-Supervised Learning with Extreme Learning Machine for Microseismic Waveform Classification (*Xin Bi & Gaoke Shi & Zhe Xu & Lei Hu & Wei Zhang & Zhibin Yao & Xiangguo Zhao*)

TinyThrow - Improved Lightweight Real-time High-rise Littering Object Detection Algorithm (*by Tianyu Ji & Pengjiang Qian*)

Application of ELM model to the motion detection of vehicles under moving background (*Zixiao Zhu & Rongzihan Song & Xiaofan Jia & Dongshun Cui*)

15.15-15.30 Break

15.30-16.00 Keynote 4: Prof. Amaury Lendasse, University of Houston, *CONCLUDING KEYNOTE "Learning metric with missing data"*

16.00-16.15 Closing remarks, Kaj-Mikael Björk

16.15 End of Conference