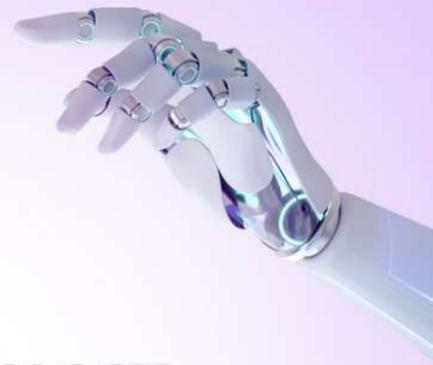




1ST

INTERNATIONAL CONFERENCE ON



EMERGING TRENDS IN BIOMEDICAL ENGINEERING, SCIENCE AND TECHNOLOGY (ICETBEST) 2024



SALIM HABIB UNIVERSITY



1-DAY HANDS-ON WORKSHOP

FEBRUARY 29, 2024

Building Transformer Models for Training on Time Series Datasets

Time series is an ordered sequence of collection of data points indexed with respect to time series. In the real world, from scientific computing to enterprise, time series is one of the most common types of data collected and analyzed. In certain situations, the sheer size of time series data is motivation enough to look into automated analytics and extract value from it.

Transformers are deep learning models responsible for revolutionizing the AI landscape, in classical Deep Learning and Generative AI in particular. It is a building block for very large language models (LLMs) such as ChatGPT (2-4). Recent investigations in applying transformers to ordered datasets such as time series have shown promising results.

In this workshop, we will dive into understanding what transformer models are and how we can use it to train them on time series datasets. This workshop will be composed of theoretical and hands-on sessions on compute resources in the cloud.

About the Speaker



Dr. Mohsin Ahmed Shaikh is a Computational Scientist at KAUST Supercomputing Lab (KSL), King Abdullah University of Science and Technology, Saudi Arabia. He has over 10 years of experience in designing, developing and supporting large scale HPC applications. As part of KSL's application support team, he provides support to users of Shaheen Supercomputer and GPGPUs in ibex Cluster.

Topics Covered

- Introduction to Transformer DL Models
- Building a Transformer DL Model from Scratch
- Fine-Tuning a Transformer DL Model on a Time Series Dataset
- Accelerated Model Training

Who Should Attend?

- Data Scientists and Engineers who want to use Deep Learning for Predictive Analytics on Time Series Datasets
- Students of Engineering, Computer Science, and related fields

Registration Fee

For National Participants	PKR 3000
For International Participants	USD 100

Registration Deadline

January 15, 2024

For further details, please contact:

Engr. Muhammad Aamir

Email: mohammad.aamir@shu.edu.pk

UAN: (+92-21) 111-248-338 Ext: 239

To register, please scan:



Limited Seats Available

OUR PARTNERS:

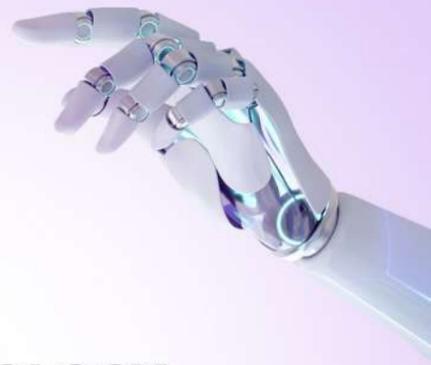




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1-DAY HANDS-ON WORKSHOP

FEBRUARY 29, 2024

HPC/CFD Hands-on Workshop on Cloud

This workshop is designed for beginners who are interested in knowing how to use cloud resource for Computational Fluid Dynamics (CFD) application. CFD is the study of predicting fluid flow, heat transfer, and other related phenomena by solving a set of governing equations. CFD is an integral part of the design process in a wide variety of industries, ranging from pharmaceuticals and energy to aerospace, automotive and defense. Research in CFD also spans several engineering and science departments. The workshop will cover high level information about high performance computing (HPC) such as: parallel & distributed computing, Amdahl's law, and strong scalability.

The attendees will perform a hands-on strong scalability study on a CFD application to see the benefit of parallel computing. Using an open source CFD solver - OpenFOAM, the attendees will:

- Create a model of a blood flow problem
- Perform simulation on cloud
- Vizualize data using an open source code - ParaView

About the Speaker



Dr. Rooh Khurram is a Staff Scientist at the KAUST Supercomputer Laboratory (KSL) at King Abdullah University of Science and Technology in Saudi Arabia. He provides advanced support for CFD projects and runs training and consulting services for the Kingdom's engineering community. Dr. Rooh has conducted research in finite element methods, artificial intelligence, high performance computing, deep learning, multiscale methods, fluid structure interaction, detached eddy simulations, in-flight icing and computational wind engineering.

Dr. Rooh received a Ph.D. in Civil Engineering from the University of Illinois at Chicago in 2005. He also has degrees in Mechanical Engineering, Nuclear Engineering, and Aerospace Engineering.

Prerequisite(s)

The attendees should preferably have knowledge of:

- Numerical methods and programming
- High performance computing (desired but not mandatory)

Who Should Attend?

- Data Scientists and Engineers who want to use Deep Learning for Predicative Analytics on Time Series Datasets
- Students of Engineering, Computer Science, and related fields

Registration Fee

For National Participants	PKR 3000
For International Participants	USD 100

Registration Deadline

January 15, 2024

For further details, please contact:

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