



efl -  
the Data Science Institute

# CERTIFICATE OF PARTICIPATION

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# INTRODUCTION TO DATA SCIENCE

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JAN • 26 • 2024

Micha Bender • Johannes Chen • Dr. Benjamin M. Abdel-Karim • Tino Cestonaro

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# ACQUIRED SKILLS

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**The Participant Hafeezullah Haidari  
showed distinctive performance, while  
gaining the following skills and knowledge:**

## **DATA SCIENCE PROCEDURES**

- DATA SCIENCE ROLES
- KDD CYCLE
- DATA SCIENCE PROCESS
- DATA MODELLING
- SUPERVISED LEARNING (E.G., RANDOM FOREST, FEEDFORWARD NEURAL NETWORKS)

## **LIBRARY KNOWLEDGE/ SKILLS**

- DATA VISUALIZATION (SEABORN, MATPLOTLIB, PLOTLY)
- DATA WRANGLING (PANDAS, NUMPY)
- DATA MODELLING AND MACHINE LEARNING (E.G., SCIKIT-LEARN, KERAS)

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Prof. Dr. Oliver Hinz  
Prof. Dr. Peter Gember  
Heads of the efl

