High Integrity Systems Project
TSA Tasks 07

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HIS Project progress:

To summarize our discussion today I would like to point out the three final goals of the project:

1. The final, joined document, written in LaTeX, should explain the main findings of the project, the experiences and the mathematical details of the methods used. Based on this document there will be a

2. short Viva in the second half of February for each of you.

3. A joint code repository will be helpful for your future.

For the preparation we continue to work through the book:

1. Please summarize chapters 15 and 16 of the book *Modern time series forecasting with Python*!

2. Please run the corresponding code of chapters 15/16, comment the code and explain it! Please explain also errors and how you solved them!

3. For the most modern models, e.g. *Temporal Fusion Transformers (TFT)*, but also the *Temporal Kolmogorov-Arnold Transformer (TKAT)*, please search for the corresponding publications.

4. Please continue to build a repository with running code examples for sharing with your colleagues!

5. Please furher explore the Matlab TSA capabilities:

   - Explain the theory of *Wavelet Analysis*.
   - Look into *Wavelet Scattering*.
   - Read *Wavelet Time Scattering for ECG Signal Classification* in the Matlab documentation, and
   - run the code and explain it!

6. As discussed, the group has to provide updated versions of your HIS project document!