July 15 (Wed.)

Installed libraries in Anaconda

* Keras
* Tensorflow
* Pandas
* Scikit-learn
* Matplotlib

Neural Network Tutorial from

<https://www.freecodecamp.org/news/how-to-build-your-first-neural-network-to-predict-house-prices-with-keras-f8db83049159/>

Tensorflow error – need to fix!

Hiwi Work – Tf modeling

July 16 (Thu.)

Looking up and gathering data from the given sources

<http://ipt-effekt>

Call with Matze – about sensor data conversion.

Data fetching using Matze’s code for sensor data values.

Call with Hamid, and discussion with Paul about surface form measurement.

[15:58] Vogel, Paul-Alexander

AO and AP --> this refers to the PV error between actual shape (glass specimen) and mold shape (target shape) --> this is relevant for your evaluation

​

[16:00] Vogel, Paul-Alexander

AJ and AN refer to the error of (Hamid´s) fitted curve and the reference surface --> this should be not relevant for you

July 17 (Fri.)

HiWi – parameter estimation problem, using smothing data

July 20 (Mon.)

Hendrik – Research papers for time-series modeling received

**Data Science Process Management Methodologies**

<https://medium.com/datadriveninvestor/data-science-project-management-methodologies-f6913c6b29eb> (Limited Access)

Methodology to follow in the thesis –

KDD

Detail - <https://ieeexplore.ieee.org/document/4443341>

CRISP-DM -

Detail - <https://www.the-modeling-agency.com/crisp-dm.pdf>

SEMMA

Detail - <https://support.sas.com/documentation/cdl/en/emcs/66392/HTML/default/viewer.htm#n0pejm83csbja4n1xueveo2uoujy.htm>

**Deciding between Polynomial Regression, Neural Networks and Random Forests**

Link to PROS and CONS of each method

<https://www.kdnuggets.com/2018/08/selecting-best-machine-learning-algorithm-regression-problem.html>

<https://www.simonwenkel.com/2018/08/13/Selecting-Machine-Learning-Algorithms-for-Regression.html> (More Detailed)

Neural Networks – Black box or gray box (interpreting NNs by feature visualization)

<https://distill.pub/2017/feature-visualization/>

Understanding and using Github for Jupyter Notebook and files between IPT workstation and personal laptop

Practice Implementation of Neural Networks – Part II – in personal laptop (transfer files using GIT) – [Tutorial link](#Keras_Tutorial_1)

!NOT WORKING – Anaconda on laptop too slow, on IPT Desktop shows error (need to fix).

Fixing bug with keras (tensorflow) in Jupyter Notebook! – Bug fixed in Laptop. IPT PC bug fix pending!

**Task-1: Make a Demo NN to relate scalar inputs to scalar outputs – just to practice NN with keras and to test if any correlation comes out. ??**

(Task 1 – Preprocessing to filter experiment IDs with relevant information)

July 21 (Tue.)

Trying to fix problems with Tensorflow on IPT desktop.

Today 🡪 Implement a NN on scalar inputs and outputs using the preprocessed data